APRIL 1960 / 50 CENTS

AMERICAN BUSINESS

BETTER MANAGEMENT THROUGH OFFICE IMPROVEMENT

New System Measures Employee Effort page 7

Employee Services— Not Paternalism page 13

Supervisors' Time Can Be Analyzed page 20

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VOLUME 30 / NUMBER 4

AMERICAN BUSINESS

BETTER MANAGEMENT THROUGH OFFICE IMPROVEMENT

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APRIL 1960

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A Dartnell Publication

THE EDITOR'S CORNER

AS you probably have read, Geyer-McAllister Publications of New York City has purchased AMERICAN BUSINESS and will merge it with its own fine publication, *Office Management*. A new magazine will emerge from this marriage: *Office Management and American Business*. You will begin to receive copies in May.

Geyer-McAllister has a background in magazine publishing that goes back to 1877. Editor of the new magazine will be Bob Smith, editorial director of the company and editor of *Office Management*.

Skilled Editor

While I had not met Bob until a few weeks ago, I have long been familiar with his work. Most editors of professional or technical magazines are either skilled in the editorial arts or specialists in the field their magazine covers. Bob Smith possesses a dual background. He is a highly skilled editor and a facile writer. He is also a highly respected authority on management, especially office management, and makes frequent addresses on this specialty before such organizations as the American Management Association and the National Machine Accountants Association.

An editor of this depth and breadth is needed to direct a magazine that seeks to report the developments in this increasingly technical field. The "industrial revolution in the office" is not a cliche. The new business machines, office equipment and systems can make contributions to the upper-level management of a company. The office and the men in charge of it are not limited merely to pushing the paperwork along. Electronic computers, photocopying machines, dictating equipment, communicating devices—carefully integrated in an overall system—can contribute to top management by solving problems and creating opportunities of such magnitude that they arouse the interest of the chief officers of a company.

All this has been established by many independent authorities, including the highly authoritative National Industrial Conference Board.

Until recently most of the applications of these systems have been in the very large corporations, so big that they could afford to investigate and pay for equipment needed to do the job. Now, however, modest-sized and even small companies have available to them business machines and other office devices that will make significant profit contributions through better service to customers, faster inventory turn, lowered inventory requirements, shortened accounts receivable cycle, fresher management data, and other functions of the business that the chief executives of companies have to deal with.

With its enlarged facilities and scope, *Office Management and American Business* will cover this field by reporting sharp-angled, highly practical stories that will give you ideas and techniques you can copy and put to use in your own company. It takes the editorial enterprise and double-barreled background of Bob Smith to handle this assignment—one of the most challenging in publishing today.

Paid Circulation

All of us on the staff of AMERICAN BUSINESS were delighted to have it sold to a publishing firm with the editorial accomplishments of Geyer-McAllister. It was our favorite among the publishing companies seeking to buy the magazine. For one thing, it is an advocate of paid circulation, believing that a magazine worth reading is a magazine worth paying for.

The emotional impact of the sale of the magazine is counterbalanced by the assurance that the new magazine will be greater than the sum of its parts. On behalf of the entire staff of AMERICAN BUSINESS, I extend best wishes for success to Geyer-McAllister in this new venture.

Charles F. Johnson

AMERICAN BUSINESS

Founded in 1930 by John Cameron Aspley and combined in 1935 with "System" magazine, founded in 1900. Published on the first of each month by Dartnell Publications, Inc., a subsidiary of The Dartnell Corporation.

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An index of the previous year's articles is published in each January issue of AMERICAN BUSINESS, which is also indexed by Business Periodical Index. Microfilm editions of yearly volumes are available from University Microfilms, Inc., 313 First St., Ann Arbor, Michigan.

This magazine's mission is to serve as a clearinghouse for management ideas and practical solutions to common management problems, especially in those areas of office administration of real concern to top management. Its editors welcome ideas, suggestions, and criticism.

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The simple truth about Data Processing

To get the on-time information they require, many executives visualize the need for a battery of expensive equipment. Yet there is a low-cost system that fits your company as it stands and as it grows.

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Then, too, there's the *expense* of that equipment. And the often considerable gamble that the large investment called for won't ultimately pay off in results.

Much of this feeling about data processing, of course, is justified. Most available systems *are* large and unwieldy. More than that, they're complicated. Special personnel must be found to run them. Your own people must be thoroughly trained. And, as for your methods of doing business—even *they* must often be altered to the machines.

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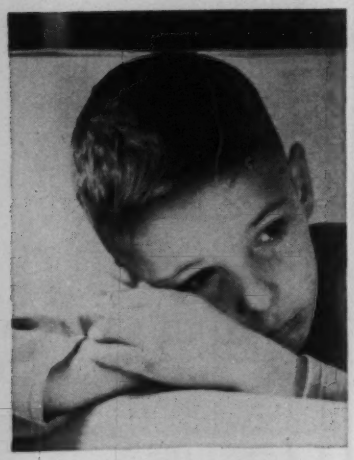

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Mental illness hospitalizes MORE people than polio, heart, tuberculosis, cancer—all other diseases combined. Outside the hospital 1 in 10 need psychiatric help. Next—let's Conquer Mental Illness!!

Give at the Sign of the Ringing Bell

NATIONAL ASSOCIATION FOR MENTAL HEALTH

Chemical Industry Reveals Sales Success Formula

ATLANTA, GA.—The rate of corporate failure in the chemical industry is less than that of business as a whole, the 42nd national meeting of the American Institute of Chemical Engineers was told recently.

D. H. Jackson, vice president of Croll Reynolds, Westfield, N. J., made this comment on the success of the chemical industry in his paper, "Sales Policies of Small Plants."

The following sales policy suggestions he offered to small firms manufacturing chemical engineering equipment have applications to companies within other industries:

1. Concentrate on a few items, possibly only one, that cannot be standardized to the point of large mass production;

2. Be sure the salesmen have adequate technical training including a degree in engineering, preferably chemical engineering;

3. Be sure salesmen have complete knowledge of the product they are selling and its applications;

4. Keep salesmen informed on the work of design engineers, test and development personnel;

5. Train salesmen to give the best possible field service on your equipment;

6. Train salesmen to actually "look for trouble" so that they can quickly recognize customer dissatisfaction or malfunction of equipment and move to meet these problems;

7. Inspire salesmen to look for new application of equipment and new modifications that will increase these applications;

8. Ask customers for suggestions and new ideas they may have for equipment;

9. Advertise in at least one good technical publication;

10. Supplement advertising with direct mail sales promotion;

11. Encourage salesmen and the entire technical staff to attend meetings of the engineering societies and trade associations that cover the field in which the company operates;

12. Take advantage of the better morale that often exists in small firms and of the absence of "company politics" often found in large firms. END

Karpinsky Foresees Few Strikes in 1960

THE YEAR 1960 promises to be one of widespread labor peace, with the number of strikes and man-days lost due to work stoppages approaching record lows, William Karpinsky of American Cyanamid Company predicted in *Management Review*.

For one thing, he pointed out, few labor agreements covering large industries are expected to expire during the year; and the possibility of mass strike idleness is "unlikely." He sized up the immediate future of labor-management relations as follows:

1. Wage increases during 1960 will continue the slight upward trend established in 1958 and 1959 and may reach 10 cents an hour.

2. Emphasis on fringe benefits will continue. "No pace-setting innovations are foreseen, but a number of improvements in pensions, insurance, and severance pay should take place."

3. Escalator clauses, under which wages are adjusted to cost-of-living changes, may be "modified, limited, or, in a few instances, eliminated in the coming year."

Karpinsky also noted that in the largest and most important negotiations scheduled during the year —those involving the railroads and various brotherhoods—settlement on wages can be reached either through arbitration or through an emergency board recommendation, "with the thorny issue of featherbedding being referred to a special board for study and recommendation." END

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Geyer-McAllister Publications Buys AMERICAN BUSINESS

THIS is the last issue of AMERICAN BUSINESS to be published by Dartnell. On March 8, Dartnell Publications, Inc., a wholly owned subsidiary of The Dartnell Corporation, Chicago, sold the magazine to Geyer-McAllister Publications, New York. Beginning with the May issue, AMERICAN BUSINESS will be combined with *Office Management* magazine.

Donald McAllister, president of Geyer-McAllister, whose company publishes *Office Management,* announced that the combined magazine will be called *Office Management and American Business.*

B. Gordon Fyfe, president of The Dartnell Corporation, explained that "Dartnell has sold the magazine to concentrate our editorial and research resources more heavily in our primary field, monthly services for sales and personnel administration." The original "Dartnell Service," a bulletin for salesmen, was begun in 1917.

Plans for the combined magazine call for the fulfillment by Geyer-McAllister of all current subscriptions to AMERICAN BUSINESS.

"Of AMERICAN BUSINESS's 10,000 ABC paid circulation at the end of 1959, about 50 percent is unduplicated," said McAllister. "This will enable us to guarantee a total of 37,000 ABC net paid circulation with the May issue. Many of AMERICAN BUSINESS's editorial features will be incorporated in the combined magazine."

Robert M. Smith, editorial director of Geyer-McAllister Publications and editor of *Office Management,* will head the editorial staff of the combined magazine. Charles F. Johnson, editor of AMERICAN BUSINESS and president of Dartnell Publications, Inc., will become survey director of The Dartnell Corporation.

SIGNING THE CONTRACT FOR THE SALE OF "AMERICAN BUSINESS" to Geyer-McAllister Publications, New York, is B. Gordon Fyfe, president of The Dartnell Corporation. Looking on are John M. Smythe, vice president and midwest manager for Geyer-McAllister; and Charles F. Johnson, editor of the magazine.

Oldest Business Magazine

AMERICAN BUSINESS was begun in 1930 by J. C. Aspley, founder of The Dartnell Corporation and now chairman of its board of directors. In 1935 the magazine was combined with *System,* founded in 1900 by A. W. Shaw.

System is considered to be the first business magazine published in the United States. One of the best-known members of its editorial staff was the poet and Lincoln scholar, Carl Sandburg. Dartnell President Fyfe began his publishing career in the circulation department of *System's* London office.

Office Management, established in 1940, has experienced rapid growth. With the increasing application of automation and other new techniques in office administration, *Office Management's* paid circulation has increased from 11,000 in 1953 to 32,000 at the end of 1959.

Geyer-McAllister is one of the country's foremost business publishers. Its original magazine, Geyer's *Dealer Topics,* was founded in 1877 by Andrew Geyer to serve the office equipment and stationery dealers. The *Gift and Art Buyer,* which serves manufacturing and sales establishments in its industry, was founded in 1917. Both magazines are monthly and are still published by Geyer-McAllister.

END

$$\frac{[\text{Number assigned} \pm \text{loans} - (\text{idle} + \text{out-of-area})] \times \text{effort rate}}{\text{Number assigned} \pm \text{loans}} \times 100$$

equals Performance And Cost Evaluation

BY *Norris Willatt*
Business Writer

ONE morning recently, Joe Parks, a senior PACE observer at the Norair division of Northrop Corporation, took a visitor with him on one of his tours around the fabrication shop of the plant at Hawthorne, Calif. The purpose of the visit was to see how Northrop's PACE (an acronym formed from Performance And Cost Evaluation) program is applied. This is a new tool for management self-appraisal developed at Norair that is beginning to arouse national interest—as a result of its effectiveness in helping reduce costs at the California airspace company.

Trailed by his guest, Joe ambled through the shop. Some few of the workers exchanged a greeting with him, several looked curiously at the visitor, but most of them went on with what they were doing. They took no notice of Joe as he noted them one by one on his automatic counter and briefly took in how each was going about his assigned job. At the end of the tour, Joe pulled out his record book and entered up the sum of his observations: the number of people in workplaces compared to the number employed in the department, the number idle, and how effectively the others were applying themselves to their work. Using this information, he computed for the whole group a PACE rating, expressed as a percentage of 100.

The rating was low, indicating that less than normal effort was being put forth or, expressed another way, that management was getting less than it was paying for. For this there was an explanation: The shop had recently moved to its present location from another nearly a mile away and was still in the shakedown stage. As a result, performance had fallen off.

D. N. PETERSEN, chief of Manufacturing Methods Engineering at the Norair Division of the Northrop Corporation, plots the PACE rating for one of the company's departments.

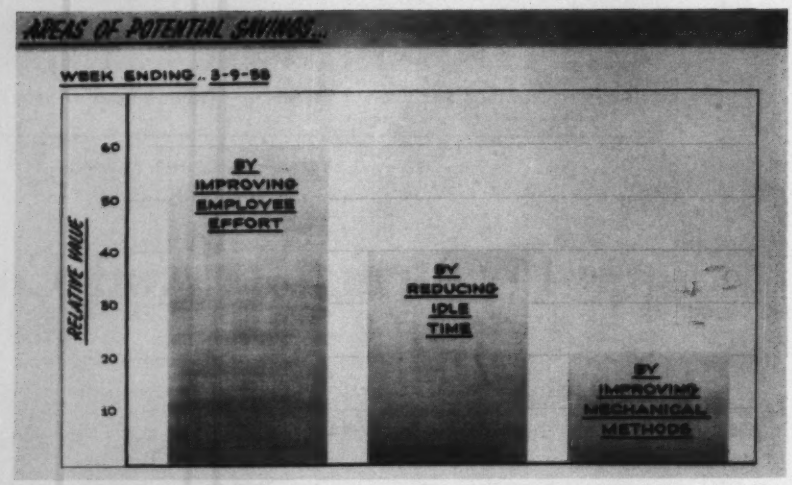
For the past two years, Norair has been using PACE as a tool to increase the effectiveness of group effort throughout the entire plant. All departments are included, not only those concerned with fabrication and other manual tasks. Observations have either been carried out, are going on, or are planned in all the offices, in warehousing, tool design and fabrication, engineering (including such areas as model shop, wind tunnel and nuclear physics laboratory), quality control, industrial relations, and administrative functions. Joe Parks is one of a score or so of observers doing the physical checking at the plant in Hawthorne, Calif., that employs some 9,000. Each observer can evaluate 250 to 600 workers, depending on location and the complexity of the operation.

Performance and Cost Evaluation in the past two years has made its mark at Norair. Though the benefits from PACE directly are hard to segregate, it undoubtedly has played a significant part in the cost reductions the company has achieved in the factory; and the benefits now are being extended to office areas and even to such high-budget operations as research, design, and engineering. The program has attracted widespread interest among hundreds of defense firms, companies in unrelated fields, and branches of the Armed Services.

Universal Applications

The appeal of PACE lies in the fact that it is a tool that can be applied to any kind of activity involving human effort. Basically, it is a statistical means of measuring group effectiveness in the performance of an assigned task. A 100 percent effort rating is related to the nationally accepted standard of the amount of energy expended by a man walking three miles an hour on a smooth, level surface without load. A group is assigned a percentage rating based on three factors: an out-of-area percentage, idleness percentage, group effort percentage.

PACE is not a substitute for established control procedures, but a supplement to these. It was called into existence at Norair through the desire of division vice president and general manager, Richard R. Nolan, for a measurement of work tempo in an industry that depends heavily on the performance of people. In the aircraft-missile industry, unlike heavily automated industries where the work pace is regulated by machines, the tempo of activity is governed by the effectiveness of worker groups.



ABOVE: THE RELATIVE VALUE OF THREE FACTORS that influence the PACE rating has been established in this ratio. RIGHT: When these factors are translated into observable behavior—idle time, out of area, and effort—a PACE rating can be established for the organization.

PACE measures group effectiveness. Probably that is why it has aroused so little worker objection, though it has been labeled a "speed-up" technique in union literature (Northrop is not organized). According to Norair Industrial Relations Director John Clark, PACE has caused less of a stir in the plant than a decision to remove food service in some areas. The fact is, PACE is concerned not with worker but with *management* performance. The key figure in the program is the supervisor.

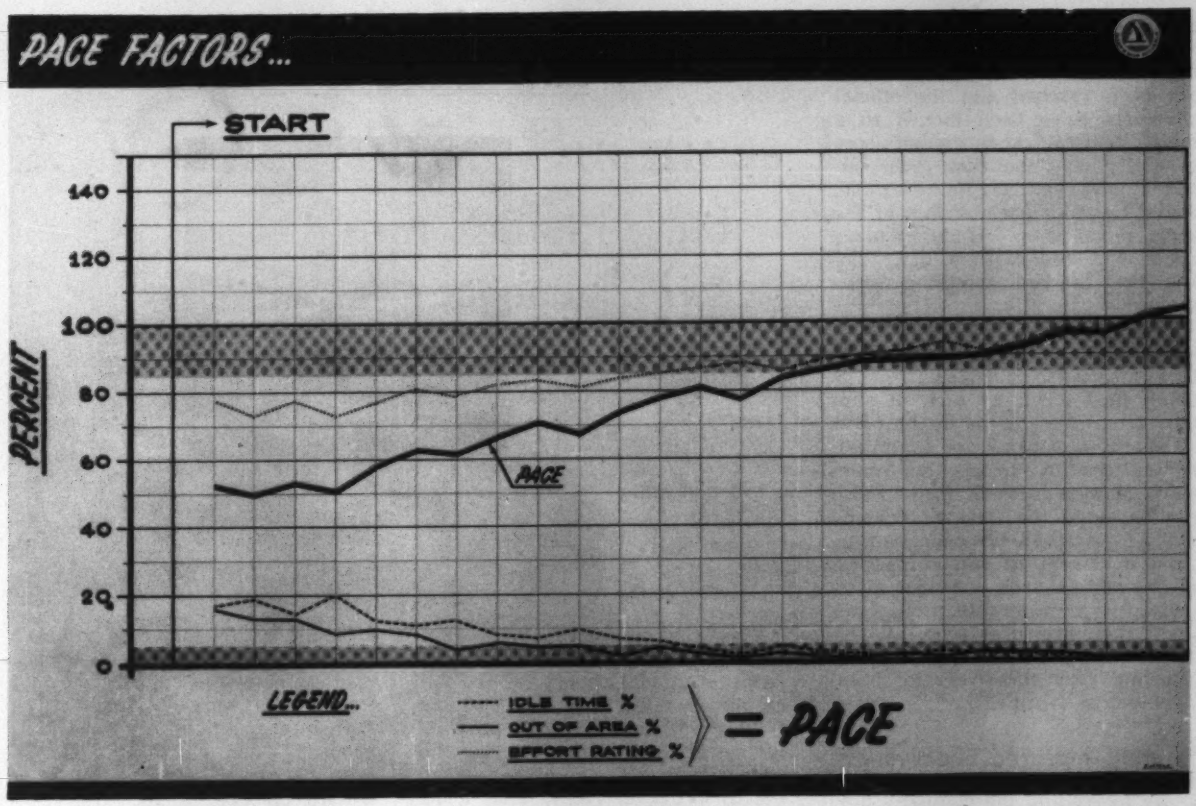
Says Richard Nolan: "Our operating philosophy at Norair is based on the belief that workers want to do a good job. We further believe that the things which prevent people doing a good job are of management's making. Our third conviction is that the management level on which the responsibility lies for dealing directly with people is the least equipped to do the job."

Fundamentally, then, PACE is designed to enable management at supervisory level to accelerate its knowledge and experience by having constant and accurate information as to problem areas, their causes, and their cures. At Norair, the problem of how to achieve this was tossed by the general manager to F. W. Lloyd, vice president for manufacturing, who put an industrial engineering team on the job under David N. Petersen, now chief of manufacturing methods engineering. After some months, including intensive training of observers, the PACE program began to be put into operation in select locations. In March 1958 it was officially started on a widespread scale.

To begin a PACE measurement of a work area, the observer first makes a two-week basic study of the department. He learns about its work tasks and explains his mission to personnel. Then he begins to tour the area several times a day on a random schedule, and using different routes. He notes the number of persons working, the number idle, and the number out of the assigned work area, and evaluates the group effort.

When factory activities are being measured, the observer's findings are converted into a basic PACE index, which is plotted on a chart each week. The goal is to bring the PACE index into a control area representing 85 to 100 percent of normal optimum effort. The beginning point is not considered critical. What matters most is the trend of the PACE line. It should rise steadily until it reaches the control area, level off and stay there.

However, the PACE index is not used merely in isolation. Plotted along with it are data involving other available performance indexes, such as personnel index, budget realization index, schedule



index, quality index, shortage index. As any one of the numerous wall charts in the chart room at Norair confirms, normally there is a direct correlation between the trend in the PACE index and these other indexes.

Thus, as PACE goes up, the personnel index falls, since fewer people will be required to do a given job, other factors being equal. The budget realization index tends to rise. Fluctuations in the schedule index show whether under the impact of PACE work is getting ahead of schedule, which can create problems as well as a lag. Norair experience shows that quality improves with the PACE rating. A rise in the shortage index may cause workers to stretch out their jobs, adversely affecting the PACE rating.

When PACE moves away from the factory floor into the office and other areas, then the accuracy of measurement declines somewhat. It is fairly easy to arrive at a rating for the typist or accounting machine operator in the payroll department (this has a very high PACE rating at Norair), but becomes more difficult when the effort involved is talking on the telephone, studying an engineering report, or merely "thinking around" a design problem. PACE does not attempt to effort-rate thinking time.

Nevertheless, PACE has been applied to all those areas. Experienced observers are able to judge to some extent whether a man reading or a girl phoning is doing it with application. However, away from the factory, new yardsticks are introduced, including a division into manual, visual, and oral application. When the shift to the engineering operations took place, observers were alerted to make a new study, of Coed (Concentration on Engineering Design —"thinking time"). This measurement is concerned with "magnitude of occurrence."

How to Rate "Thinkers"

By the same token, the results of observation become the more tenuous, the more "rarefied" the atmosphere of observation. But worthwhile results still are obtained, according to Norair officials.

Robert N. McNamara, director of costs and budgets, states that even if he were to disregard completely the group effort statistics related to his departments, he still would get worthwhile information from the observations of out-of-area and idle time. As for observations on "thinkers," Mr. Lloyd observes: "If repeated observations show one group spends 20 percent of the time looking at the ceiling, and another comparable group 40 percent, you begin to get curious and study other factors; such as the output of the two groups in terms of quality, quantity, and imaginative innovations. The result may be, incidentally, that the first group is spending too little time thinking rather than the second too much."

As indicated, the key to the PACE program is the department supervisor. Upon him ultimately rests the responsibility of lifting his PACE index to the control area and keeping it there. Norair experience has shown that at the supervisor level PACE runs through a period of resistance, then acceptance, and that supervisor attitudes largely are reflected among the workers under them.

At first, even though the program has been carefully explained to him in advance (as it always is at Norair), a supervisor tends to resent the suggestion his group is not working as effectively as it could. But, after a little time, he

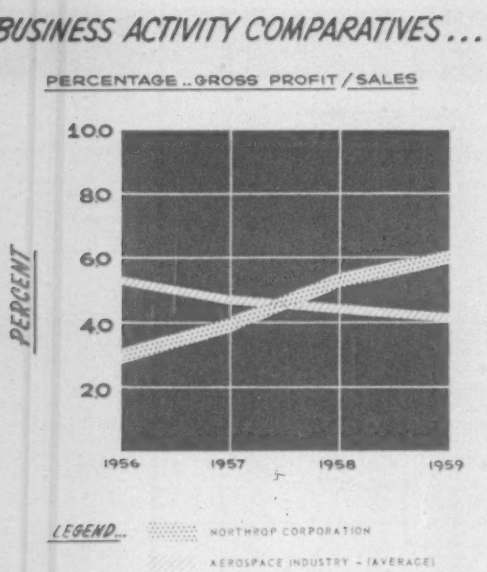
begins to rise to the challenge, making an effort to raise his rating. Finally, when the proper level has been reached and the official observers have been moved to a more fruitful area, supervisors generally continue their own unofficial observations. For example, Eddie Nolan, superintendent of the sheet metal shop, regularly takes about four observations daily, using the random sampling technique.

An important effect of PACE is the lateral pressures it generates. If a supervisor finds his rating is being held down by lack of support from other areas in the plant (a shortage of parts, for example), he will protest—to see that something is done about it. He will also try to avoid the stigma of being rated lower than his counterparts. "It's a truism of industrial psychology that such sidewise pressures are considerably more powerful than pressures from above," states Nolan. "PACE has them working very effectively for management at Norair."

Greatly Improved Effectiveness

As to results, the company does not like to become too specific because of the many factors to be taken into account. However, there is plenty of evidence of tangible gains. For example, in one department observations showed that 17 percent of the production workers normally were out of the area getting blueprint interpretations from design engineers. This waste of effort was eliminated by bringing a liaison engineer into the shop. M. L. Fayrweather, a superintendent in the manufacturing department, reports that as a result of his PACE index rising from 60 percent to 90 percent, the number of people needed to do the same amount of work declined by one-third.

In the accounts payable area of the office, excessive out-of-area time spent on chasing paper was eliminated by steps requiring other departments to make the paper available as needed. In the finance department, when the PACE rating went up by 10 percent, fewer people were needed to get the work done. Overall, according to Treasurer J. Grant Macdonnel, since PACE was introduced at Norair, the ratio of direct to indirect labor (overhead, wages, salaries) at Norair has declined by 9 percent.



The early results of PACE were summarized in the Northrop Corporation annual report for the fiscal year ended July 31, 1958, as follows: "Compared with presently established standards in the manufacturing operation, the PACE program contributed a 21 percent improvement in group effectiveness in the first six months of operation." It also is considered significant that in the fiscal year ended July 31, 1959, the company's earnings were higher in spite of a decline in sales. Net income was up slightly to some $7.32 million (equal to $4.01 a common share) from some $7.23 million ($3.96 a share), as dollar volume was off to some $263 million from some $274.5 million.

By no coincidence, PACE has been applied at Norair in a period when a decline in business was foreseen because of the contraction of aircraft production and increased competition for the missile and electronics business that is taking its place. Northrop already had a reputation as a low-cost producer in the defense business. Management's aim has been to make the company THE low-cost producer, so as to be able to bid more effectively for contracts.

However, on many projects, up to 60 percent of the work is contracted out, so that isolated action at Norair to reduce costs is vitiated. Hence, not long ago the company called in representatives of about 160 subcontracting firms for a briefing on PACE, with an invitation to share its benefits. As a result of the interest aroused, several seminars have since been held. Meanwhile, news about PACE has spread widely. The keen interest of the Air Force was aroused when Northrop reported an underrun of several millions of dollars on one of its large contracts.

Such is the demand for PACE information nowadays that the program chief, D. N. Petersen, spends a good part of his time traveling about the country addressing service brass, management groups, university departments, and corporate executives on the subject. Norair now is ready to put in a program for others, for a fee. Already two major installations have been made: at the General Electric Missile and Space Vehicle Department at Philadelphia, and the Raytheon Missile Systems Division plant at Andover, Mass. (the second of which is unionized, by the way).

In theory, PACE can be used to measure the effectiveness of group effort in all types of industry. But industries likely to benefit most are those where production is in job lots, work is not repetitive or uniform, and where worker output cannot be adequately, objectively, and fairly measured in relation to the time spent on the job using other methods. But, as if to emphasize the flexibility of the tool, Norair recently was asked to introduce PACE into a large hospital in the Los Angeles area.

END

1. Use This Checklist to 2. Write Better Business Letters

A. More Quickly and B. Less Expensively

BY *Robert G. Koch*
Associate Professor of Communications
and
Eugene H. Fram
Assistant Professor of Retailing
Rochester Institute of Technology

CORRESPONDENCE constitutes a large and important part of the nerve network of American business. If transmission is slow or if the signal is unclear, business profits suffer. When this happens, remedial action is imperative to check losses and to raise correspondence standards.

To effect such savings, and to improve the quality of correspondence at the same time, the following checklist can be helpful:

1. *Organize your correspondence.*

A. Regularity helps to assure quality and flow. Set up organized routing of correspondence. Catch-as-catch-can correspondence is a needless expense.

B. Set production quotas and deadlines for correspondence as you do for the other expensive and important operations of your business.

C. Concentrate on techniques for quick yet complete answers. Benjamin Franklin, one of the Nation's most successful businessmen, summed up this need when he wrote, "Time is money." Incomplete letters give birth to extended correspondence and lost business.

D. Organizing for correspondence means delegating routine correspondence to subordinates. To do this, you must determine in advance what to delegate.

E. Set up checklist standards for the quality of the mail that you see. Irrelevant direct mail should not clutter the desk or mind of the busy executive correspondent.

F. Better answers, based on continual and broad experience, grow out of such correspondence classification systems.

2. *Analyze yourself and your reader.* "Know thyself," good advice for the ancient Greeks, is good advice for the correspondent. And it is equally important to "know thy reader."

A. Know how many letters you can read in an average hour.

B. Know how many letters you can write in an average hour.

C. Know your normal correspondence load.

D. Know the characteristics—the trends, peaks, and depressions—of your correspondence load.

E. Learn the types of answers and inquiries you write most frequently. How much information do your readers require? What can be assumed? How do they respond to quantitative and technical answers? What are their apparent expectations concerning punctuality in correspondence?

3. *Organize your files.* Organization saves time, money, and energy. Your files can be gold mines or boobytraps.

A. Keep an "Activity" file, set up on a monthly basis and carried for only a year. Red carbon, or its equivalent, is used for identification of items in this file. This file can be a backstop when the regular filing system fails, or when you can remember only the approximate date of a correspondence situation. It is also helpful to your subordinates when you are away.

B. Establish and maintain order within your file folders. Stapling will preserve order; paper clipping and loose filing will not.

4. *Evaluate your correspondence effectiveness.* Evaluation, an indispensable part of any quality per-

Corner Tabs Speed Correspondence

SO THAT WE CAN RESPOND TO YOUR CORRESPONDENCE MORE PROMPTLY—We are taking the liberty of replying to your letter by making a marginal notation on the letter itself.

The volume of mail which we receive would make it impossible for us to reply to your letter as promptly if we adhered to the conventional procedure of typing a formal answer.

We greatly value your inquiry and we feel that a prompt response is far more important to you than formality.

Should you find it necessary to write again, please return this letter.

formance, can be equally effective when applied to correspondence.

A. Periodically check the quantity and quality of your correspondence output.

B. Look for items that have been given special handling but can be reduced to routine procedures.

C. Look for routine procedures that can be eliminated. One company found that nobody was using a monthly summary report letter that required the work of two secretaries for three days each to compile and reproduce.

D. Do not let familiarity blind you to weaknesses in your correspondence procedures. Staff discussion will help you overcome this problem. If necessary, call in a paperwork consultant.

5. *Use speedy nonindividualized replies.* While "haste makes waste," so does lack of punctuality.

A. Use stopgap letters to maintain your correspondence deadlines. These acknowledgment letters are good business relations and, hence, good economics.

B. Use form paragraphs and form letters. When you know the characteristics of your correspondence situation, you can design these interchangeable parts effectively.

6. *Make your letters systematic.* Systematic letter-writing increases thoroughness and speed.

A. Use problem checklists when you write replies. These lists of questions or topics serve as primers for the hesitant starter. They also help to guarantee completeness.

B. In setting up your correspondence work, group your letters according to their similarities.

Devices Can Aid Program

7. *Use technological developments.* Man develops tools for his own benefit. There are several devices you should consider for supporting your correspondence work.

A. Dictation machines, for many people, remove the paralysis they suffer when faced with blank paper and the need to fill it. Dictation machines can be timesavers, but only if you learn to use them properly. It is important to check your dictating habits periodically. Check the speed and clarity of your dictation and the quality of your outgoing letters.

B. Marginal comments combined with photocopying produce speedy replies. Return the original; keep a photocopy of it with its marginalia. A corner tab with your company monogram, an explanation of your correspondence procedures, and your name and title will win acceptance for this procedure. (Some ideas for corner tabs are shown on the preceding page.)

C. Departmental memoranda may sometimes be appropriate responses to an inquiry from outside the company. Again, photocopying saves clerical time.

8. *Get to the point.* Completeness, conciseness, and directness are indispensable to any program for the improvement of correspondence. No battery of wonder gadgets will replace these qualities of good letter-writing. Each of these qualities produces satisfaction, makes additional correspondence unnecessary, and creates the habit of mind that continues to produce better business letters more quickly and cheaply. END

How 2 Increase Yr Wrt—Speed

YOU can increase your writing speed as much as 50 percent by mastering a few fundamentals of "practical shorthand." Developed by reporters and others who must get facts down fast, this system has seven simple rules:

1. *Abbreviate Words*—Almost every word can be shortened. Vowels in particular may be omitted. For instance, "Satisfied customers have made our reputation," can be abbreviated, "Stsfd custs hv md r rep." Practice makes it easy to use only the skeletons of words.

2. *Omit Extra Words*—Don't take down a word-for-word report. Leave out the unimportant frills. For example: "I, for one, agree that the salesman's right arm is advertising in all its varied forms." None of the meaning is lost in this shortened version, "Slsmn's rt rm is adv."

3. *Use Symbols*—Look at the keyboard on any typewriter and you will find abbreviations that will help cut writing time. Besides the numerical digits, these include ½, ¼, #, $, &, @, ¢. Because of their pronunciation, certain letters and numbers may be substituted for common words: b (be), r (are, our), y (why), 2 (to, too), 4 (for). Other good abbreviations are the i.e. (that is), e.g. (for example), ibid (the same). The sentence, "Product knowledge has a dollars and cents value for you, too," thus might be shortened to "Prod knwlg hs a $ & ¢ vl 4 u 2."

4. *Abbreviate Suffixes*—Try using the following abbreviations for the common word endings: v (ive), l (al, ical, ogical), mt (ment), bl (able, ible), —(ing). You can make up others to suit your vocabulary. Thus, "Creative selling is not always logical selling," can be written, "Crtv sl— not alwys logl sl—."

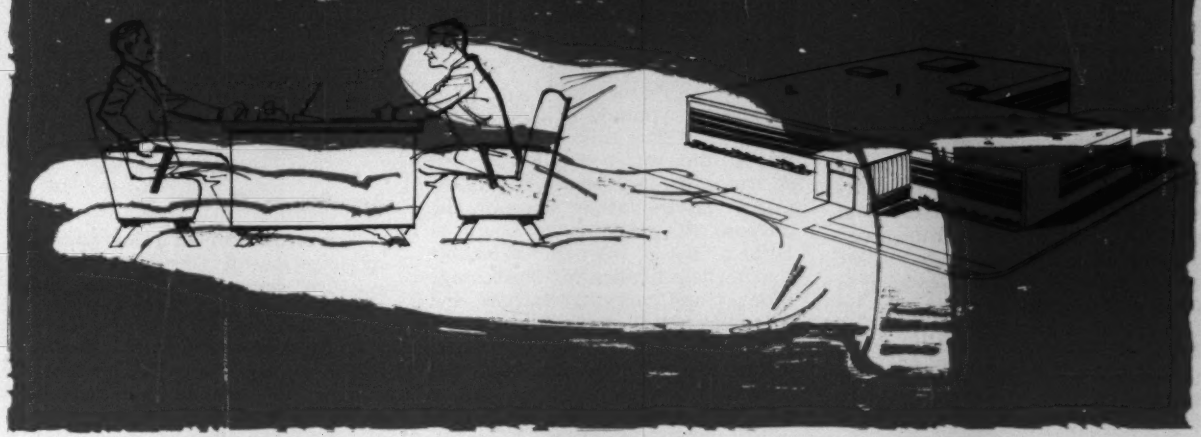
5. *Use Letters*—The Handwriting Foundation reports that less than 100 words make up 50 percent of the average speaking vocabulary. Many reporters use a system of letters for the frequently used words. Some suggested ones are: o (on), f (from), w (with), w/o (without), xc (except), bc (because), w (we). Example: "Without empathy, we salesmen are doomed," can be written, "W/o mpthy, w slsmn r dmd."

6. *Use Phonetics*—Symbols from the phonetic alphabet can be particularly helpful to the busy employee. Check for symbols that can help in your note taking.

7. *Use Mathematical Terms*—Aside from numbers, mathematics is rich in easily understood symbols. Not only can + and - mean plus and minus, but they can stand for pro and con, benefit and drawback, yes and no, more and less, positive and negative. Similarly, = may signify the same as, means, stands for. The multiplication sign, ×, can serve for the word times, or as a suffix added to the numbers 1 or 2 to change them into once or twice. Another sign, the arrow, can be used for such expressions as leads into, turns into, yields, results in.

These seven rules can mean the end of chaos and the beginning of a more orderly—and successful—business life. Try them. B4 u no it, ul be rit— ur own tkt in ½ th time! END

Extra Services You Can Offer Employees —Without Being Paternalistic



BY *Gerald R. Hocker*
Secretary-Treasurer
Hocker Power Brake Co., Inc.
© 1960 Gerald R. Hocker

THE largest single item of expense for most companies is the cost of labor. What a company gets for this money is pretty much determined by employee morale. Efforts to improve personnel relations are, therefore, a highly desirable objective.

While the talents of psychologists and personnel specialists can do much to create and maintain high employee morale, there are many businessmen whose operations are not large enough to justify or indeed afford such services. But there are many things that the line management of a company can do to foster and sustain the attitudes essential for productive and efficient employees.

Perhaps the best statement of the problem was made by Clarence Francis, former president and board chairman of General Foods, when he said:

"You can *buy* a man's time, you can *buy* a man's physical presence in a given place, you can even *buy* a measured number of skilled muscular motions per hour or day; but, you cannot *buy* enthusiasm; you cannot *buy* loyalty; you cannot *buy* the devotion of hearts, minds, and souls. You have to *earn* these things!"

The problem of earning these qualities has intensified because of the continued success of organized labor in depicting management as a pompous old bird interested in feathering his own nest at the expense of "mistreated" workers. And it must be admitted that labor's success has been facilitated by the seeming indifference of many managments to the employee's personal welfare other than his wages. Although the employees of most small businesses are not members of organized labor, the publicity given to trade-union wage demands and successes has an effect on them.

This, coupled with a lack of prudence in managing their own affairs, tends to increase the frequency of employees' wage demands. Every time they get in a financial jam, the first thing they think about is to ask for more money rather than seeking to manage their finances in a more intelligent manner.

Without appearing to be paternalistic or invading your employees' privacy you can offer financial counsel and make available other services that will make their take-home pay last longer and go further. Done with the proper finesse (and it should be done no other way) such measures can build a wonderful *esprit de corps* among your employees as well as keep them from financial embarrassments.

The following may be "old hat" to you, but not to most of your employees:

TAXES: The average employee works four months and 10 days of the year to pay his share of the tax load. He has no control over the amount of taxes he pays when purchasing an automobile, a pack of cigarettes, or a can of beans, but, with your help, he can avoid paying excess taxes on property and income. It has been estimated that nine out of 10 people pay

Mr. Hocker's company, which distributes wholesale automotive parts, recorded gross sales of $1,226,000 in 1959. The company makes available to its 53 employees these services described in the accompanying article: profit sharing, financial counseling, group purchasing of household items, and voluntary investment.

more income taxes than legally required.

INTEREST: Almost all Americans use the installment plan in their buying. In some cases the interest is nominal; in many cases, however, it is excessively expensive. When an employee finances a car for a two-year period at 6 percent "add-on" interest, for example, he is actually paying 12 percent interest! He can save money by borrowing on the equity in his home or insurance at 6 percent simple interest. Carrying charges on appliance purchases are unusually exorbitant in many instances. For example, the difference in monthly payments on a $2,000 loan for 24 months from an insurance company at 5 percent simple interest and a finance company at 1½ percent per month on the unpaid balance is $11.50 or a total of $276 for the 24-month period. You would probably be startled if you knew the amount of interest paid annually by your average employee. The employee needs a "pot of his own" to enable him to become his own finance company, and you can help him do this by the plan suggested later in the article.

Advice on Insurance

INSURANCE: Almost any employee urgently needs advice concerning the proper kind and amount of insurance he can afford for the protection of his family without paying excessive premiums. A guide to help him determine his needs according to the size of his family, the ages of its members, and the amounts of his obligations would be especially beneficial.

Your counsel on these important matters will be most gratifying to the employee, since he considers management as the brains on such financial mysteries, and will serve further to convince him that you are interested in his *personal* welfare.

What are the greatest motivating forces in a man? A man's family, along with his personal pride and sense of accomplishment, must be included at the top of such a listing. In order to get "full family force," therefore, a man's family should be included in any plan of motivation. One of the most powerful ways of earning the respect of an employee is helping him to plan a more secure future for himself and his family.

Every businessman recognizes the ever-upward trend in the national economy, and the ever-increasing frequency of wage increases with little or no increase in productivity. The clever manager would make use of this necessary evil to inaugurate his plan of motivation, thus utilizing an anticipated cost. He would add great significance and romance to what would otherwise be considered by the employee as "just another small increase in wages."

How can you add ROMANCE to a $5 raise? Try this. Give the employee the increase, then deduct it from his paycheck for deposit in his "accumulation" account, the purpose of which is to begin to build a "pot of his own" to enable him to help finance his needs, save interest and carrying charges, and to make better deals for cash. A variety of employee benefits, in addition to the employee becoming "his own finance company," would then be created by a "routine" $5 raise; such as funds for emergencies in the event of accidents, illness, layoff, loss of job, etc.; and may assure fulfillment of future aspirations, such as educating the children and supplementing retirement income. Although "payroll deduction" has become a loathsome expression to the employee, a deduction made payable *to him* has a substantially different flavor.

Most people can save money in small amounts to satisfy an immediate want, but very few can accumulate money over a long-term period. In other words, many people have savings accounts which fluctuate constantly according to their desire for new things; but generally the account is lowest when needed the most. Such a plan of accumulation should be gratifying to the employee and his wife —a source of immeasurable motivation!

Another means of effecting participation, that is, giving the employees a "sense of partnership," is to have different employees from each department from time to time "sit in" on business meetings. It will certainly increase their awareness of the varied problems of managing a business.

The plan, in brief, suggests:

1. Recognize the vital importance of keeping your personnel in tune and motivated.

2. Gain the respect of your employee and his wife by proving your *extra* interest in his personal welfare, in order to clear the field for effective communications, and to make him more responsive to instructions.

3. Get the most from your pay increase by adding greater significance; i.e., "accumulation" plan; and create a tendency to reduce the frequency of wage demands by helping your employee to better manage his finances.

4. Provide a means of participation to encourage him to use his own initiative to improve his performance, and to give him a "sense of belonging."

Benefits of Plan

The successful adaption and administration of this plan would nurture several highly desirable benefits such as:

1. Respect of the employee, with "full family force," through proved interest in his personal welfare; a respect which clears the field for effective communication.

2. Boosts selling power in the sales force.

3. Provides a means of controlling wage increases by having wage costs tied directly to profits.

4. A more contented employee because of the elimination of the nagging worry of security.

5. Assurance of a more youthful organization by providing automatic severance benefits through the accumulation plan for those employees reaching a critical age before normal retirement.

6. Reduction of waste and greater productivity due to incentive provided by profit-sharing.

7. More receptive attitude on the part of the employee to changes and new ideas.

8. Greater interest in the success of the company in general.

9. Reduced turnover of personnel, and attraction of desirable personnel.

This plan would, of course, have to be adapted to fit each individual company's own particular needs; however, the suggestions offered here should help you in formulating a plan as befits your specific circumstances.

Although we are living in a golden age in the richest country in the world, and have just completed 10 of the most prosperous years this country has ever known,

Planning a Sensible Family Budget

Before a tailor can make a suit of clothes to fit you, he must first take accurate measurements. Before you can start to construct a budget plan, accurate measurements are required. First, determine where the money goes and how much:

It would help to remember that a tight budget will never be used, and a too-liberal budget will not fulfill its purpose in helping us reach our future objectives; therefore, a budget must be feasible and practical if it is to serve as a governor on our spending to assure living within our means and of reaching our financial goals.

			Number in Family			
	Present Spending	My New Budget	2	3	4	5
Monthly income			$400.00	$400.00	$400.00	$400.00
-Tax deductions			61.70	51.70	41.70	31.70
Spendable income			338.30	348.30	358.30	368.30
RESERVED FOR ME: Includes life insurance premiums, savings deposits, investments for future security, etc.	_____	_____	$33.83	$34.83	$35.83	$36.83
FOOD: Includes all meals at home and eating out, lunch expense, etc.	_____	_____	86.50	92.00	97.50	105.50
SHELTER: Includes rent or mortgage payments, property taxes and insurance, and property repairs.	_____	_____	64.50	65.50	69.50	70.50
HOUSEHOLD OPERATION: Includes utilities, laundry, drycleaning, household and yard help, decorations and furniture replacement.	_____	_____	49.50	52.00	54.50	56.00
CLOTHING: Includes all new clothing and alteration expense for every member of the family.	_____	_____	23.50	25.00	27.50	29.00
AUTOMOBILE: Car payments, maintenance and insurance, taxi and bus fares.	_____	_____	36.50	38.50	42.50	44.50
PERSONAL: Medical expense including insurance, personal allowances for wife and children, recreation, education, dues and subscriptions, donations to church and charities.	_____	_____	43.97	40.47	30.97	25.97

You will note that the "Guide" reflects 10 percent of your spendable income reserved for <u>you</u>. The most important step toward personal financial comfort and success is to pay <u>yourself</u> first, then budget the balance of your income for everything else. Keep a part of all you earn because isn't it <u>you</u> and your family you're working for, after all?

over half of the people reaching the age of 65 arrive at that age *broke*. It would be impossible for you to make all of your employees independently wealthy; however, you should recognize the uniqueness of your position in improving your employees' chances of reasonable financial independence during their retirement years.

One way to do this is to gently indoctrinate employees and their wives into the importance of following some sort of family budget. Such advice must be proffered with great diplomacy lest employees get the idea that the company is trying to run their lives. But, unless families plan the way they spend papa's pay, the chances are good that they will spend it unwisely and too well.

Insurance salesmen, realtors, and others who have access to family financial affairs, report they have found that in most well-managed households it is the wife who controls the purse strings. In general, women are more practical than men and have a firmer grasp on reality.

It is, of course, difficult for companies to communicate with wives. One way to do so is to publish the budget-planning chart shown on page 15 in a special company bulletin mailed to the homes, or in the company magazine, if one exists.

Hire Entire Family

There are other services companies can render to their employees; but, first, let's examine a thought. When a company hires a man, it is actually hiring the entire family, and should recognize the power in that family. In most cases the wife is that power. Her pants are substantially longer than the "old man's" in the motivation department. Her heart is bigger, her tongue sharper—"Henry, you march right into the boss's office and tell him we just *have* to have more money!" Management's challenge is to capture her heart and soften her tongue—to harness the "heart power" of the family.

The most direct route (from rancor to rapture) to assure improved relations with her is to help her with her largest single household expenditure—food. The average household spends about 30 percent of its spendable income for food. Here, the company could help by placing its purchasing department at the disposal of an employee group which could be organized and called the "..... Personnel Family Services Club." The purpose of organizing such a group is to provide additional services which would be impractical or too expensive for management to render directly; and to provide additional participation for employees and their wives; and to eliminate the use of company time, money, and recordkeeping expense involved in the activity.

Most companies can buy canned goods or foods in the staple category by the case (including soap and paper goods) at wholesale prices from independent food brokers, merely by submitting a company purchase order. Many small meatpackers encourage the sale of whole carcasses completely processed and wrapped at a substantial saving. This particular function could be administered entirely by a committee made up of employees' wives. This "Food Savings Committee" could consolidate the orders, collect the money, keep the records, handle pickup and delivery, and impose on management only to the extent of preparing a monthly purchase order. Any housewife would be especially pleased to save 20 to 25 percent on her food bill. This could mean the difference in Junior going to college!

Although this has an aroma of a "co-op," it isn't that exactly. Let's go on.

This group should be organized and operated by the employees, but with management supervision to encourage the following functions:

1. Food Savings.
2. Appliance, Furniture, and Home Decoration.
3. Child Guidance and Education.
4. Adult Education.
5. Share-the-Publications.
6. Club Finance and Investments.
7. Recreation and Social.

Number 1.—Food Savings. In addition to buying food, this committee could be responsible for new ideas in preparation, canning, menus, recipes, diets, nutrition, etc., by gleaning information from household magazines and using the services of free home economists sponsored by utility companies and appliance manufacturers. Too, this particular group of wives could be responsible for family-budget planning, and prepare samples for families of different sizes, such as the accompanying exhibit. (This exhibit is a copy of the guide I prepared for my booklet—designed for our employees. Perhaps percentages, rather than actual dollars and cents, would be better. You will find these figures to be fairly accurate compared with the national average.)

Number 2.—Appliances, Furniture, and Home Decoration. Again, the company purchase order can save money for the employee particularly in the appliance department (dealer prices to employees). Am I suggesting doing business with discount houses? No. Many reputable appliance warehouses offer attractive discounts to companies with full warranty and service privileges. This committee could also be responsible for inexpensive, clever innovations in home decorating, furniture care and repair, painting, color schemes, etc.

Programs for Children

Number 3.—Child Guidance and Education. This committee could be responsible for planning programs for the different family groups with children of varied ages, using professional counselors to conduct discussions; also responsible for publication selection either available at the public libraries or club subscriptions. A most-important function of this committee is to arrange group meetings for those families with children approaching college age. Early planning is extremely important as college enrollment will double in the next 10 years, and many aspirants will not be admitted. The cost of going to college has increased 33⅓ percent in the past four years with a trend of shifting more and more expense to the student, in lieu of private funds and taxes. This trend coupled with continued inflation makes early financial planning necessary. Professional college consultants are available for meetings to discuss scholarships, the various types of financing available, etc., at no charge to the group.

Number 4.—Adult Education. The formalizing of adult education has fostered its tremendous growth, not only on the high school level in general education, but on the college level in advanced courses as well. The committee heading this function should receive close cooperation from

(Continued on page 40)

Computers to Use Fotoceram Circuits

The two components plugged into the above Fotoceram board are wafer capacitors. Both board and capacitors are made by Corning Electronic Components.

PRINTED circuit boards made of Fotoceram, a glass-ceramic material, are being considered for use in electronic office equipment.

Prototypes of the high-quality boards have been ordered recently from Corning Electronic Components by several manufacturers of computers and data-processing equipment.

Initial use of Fotoceram printed circuit boards was in meeting stringent requirements of the aircraft and missile industry. The boards were welcomed by this industry because even under adverse conditions they do not change shape, deteriorate, or absorb moisture.

Fotoceram Boards Provide Dependability

They also possess excellent strength, circuit adhesion, and resolderability. In short, they provide dependability of the sort being sought for sophisticated electronic machines that contain a high number of components and circuits, such as computers and data-processing equipment.

Corning Electronic Components expanded its Fotoceram facilities less than a year after its new plant was opened at Bradford, Pa., in November 1958. The department, which recently started making Fotoceram grid boards for laboratory and design work, also makes small wafers of Fotoceram for micro-circuitry. END

Dealer Fly-In Program Works for Lundell

A SUCCESSFUL sales promotion plan built around the company plane has enabled the Lundell Manufacturing Company, of Cherokee, Iowa, to build up its good will among farm equipment dealers.

Realizing that farm machinery dealers would be likely to accept an invitation to visit the Lundell plant during the cold months when their business is slow, President Vernon Lundell started a daily airlift of dealers to the plant.

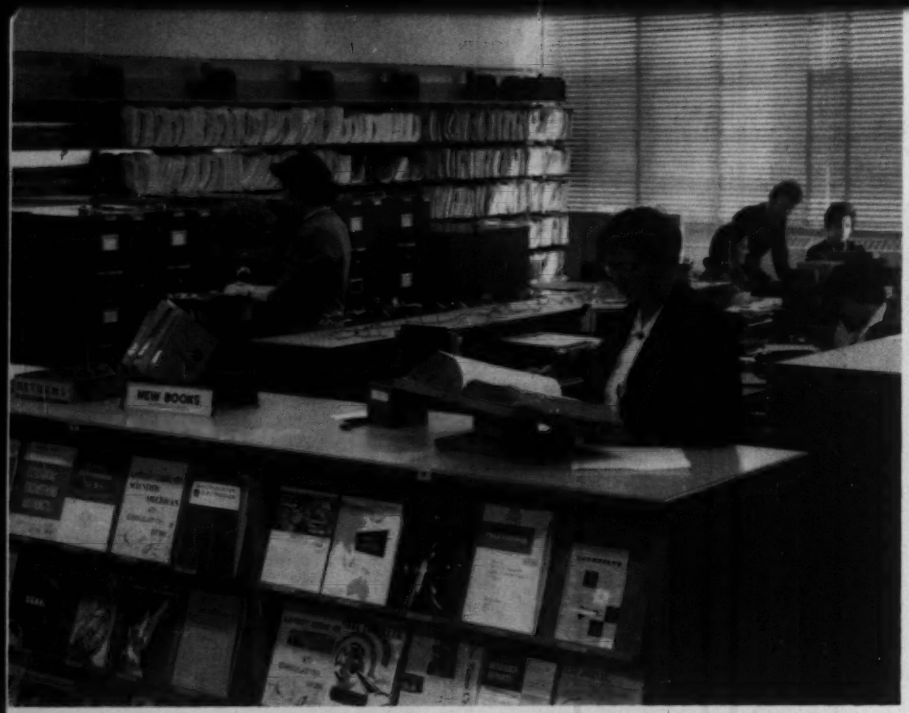
Farm machinery dealers in nine midwestern states are being picked up at their nearest airfield and flown to Cherokee in the company's Beechcraft Travel Air. Three dealers from one area are picked up early each morning, flown to Cherokee, taken on a tour of the plant, and returned that evening.

As they arrive, the dealers are photographed with Lundell officers. The photographs are mailed the same day to the dealers' hometown papers.

This public relations program has resulted in almost 100 percent usage of the photo-news releases, according to Miss Phyllis Hamilton, who handles advertising and public relations for the company.

Assistant Sales Manager Gale Evans greets farm equipment dealers from Fullerton, Osceola, and Genoa, Nebr. President Vernon Lundell, who was their pilot, steps out of the plane at the right.

In February 1958, Lundell Manufacturing became the first commercial customer to own a Beechcraft Travel Air. The four-place, twin-engine plane is capable of the 200-mph speeds necessary to transport dealers to and from distant points in one day. END



The author (foreground) is ready to assist engineers at the library's Information Center. Among the reference materials are *Thomas' Register*, telephone books of most large cities, and current technical periodicals.

Scientific Firm Finds Technical Library

BY *Alice G. Anderson*
Librarian
Wayland Laboratory
Raytheon Company

ENGINEERS, scientists, technicians, and others must stay abreast of technical developments today. As a result, they need ready access to the entire spectrum of technical progress—in books, trade publications, special reports, and other media. To meet these needs at its Wayland Laboratory, Wayland, Mass., Raytheon Company has built one of the largest company libraries in New England.

The main reason for such a library is that it saves the time of high-priced specialists seeking information to supplement and corroborate their knowledge. A single hour of an engineer's time represents several times the cost of a book or other publication. Every effort must be made, therefore, to have all the information they need on instant call. It would often be out of the question to write for the information or refer the engineers to another library.

Engineers have special needs which include access to the findings of other engineers in project technical reports. They also seek special data from books, journals, reports, reference works, government specifications, and trade literature. Their "need to know" in the fields of electronics, physics, mathematics, and related subjects is imperative and all-embracing. A partial rundown of their interests would include manufacturing, industrial chemistry, astronomy, petrology, law, architecture, mineralogy, biology, logic, drawing, metallurgy, biological science, geology, geography, and even some aspects of medicine.

Library Is Essential

Assuredly, a large engineering organization could not exist today without its library. Wherever there are technical people, there should be technical libraries—large or small—to cater to them directly, and with a minimum of borrowing from outside sources.

Lately, Raytheon engineers are showing increased interest in the material available in current trade journals. Although many books are available on varied subjects, trade journals are invaluable in reflecting current trends and problems.

In addition to these and other immediately available tools of the trade, the library contains approximately 6,000 technical volumes. About 1,800 of these are bound journals kept in so-called compo stacks. The remainder are divided equally between reference books, which cannot leave the library, and textbooks, which circulate. The library subscribes to about 250 journals, of which approximately 30 titles are bound each year, including society, professional, and technical journals. About 175 journals are obtained on paid subscription.

Indexes Are Helpful

Current journals are displayed on magazine display racks and remain in the library during the period of issue. Later, they are circulated. Shelved with these journals are house organs of manufacturers, which are treated as periodicals.

Indexes that are helpful in pinpointing articles from periodicals are:

1. *The Air University Index* (military subjects);
2. *The Engineering Index* (all aspects of engineering);
3. *Applied Science and Technology Index* (all aspects of applied science);
4. *Business Periodical Index* (trade, business, finance, and engineering);
5. *Science Abstracts* (physics and electrical engineering).

Manufacturers' catalogs, arranged alphabetically by company, provide a source of detailed information and illustrations of equipment. Bound catalogs are kept in the stacks, and unbound catalogs in file cabinets. A complete index of this trade literature is not kept because the information is made available in *Thomas' Register* and similar indexes.

Reports, obtained almost entirely on a need-to-know basis, come primarily from the Armed Services Technical Information Agency. The library receives about 250 of these reports monthly, di-

vided equally between classified and unclassified documents. The classified documents are kept in steel cabinets with combination locks. Unclassified documents are filed in open filing stacks. In addition, ASTIA supplies the library with TAB ("Title Announcement Bulletin"), a listing of current reports arranged by subject.

Textbooks and reference material are placed in standard library stacks and arranged in a card catalog according to author, subject, and title.

When an engineer wants to borrow a book from the shelves, he signs two charge cards from the inside of the back cover and places the cards in the box on the reference desk. These are filed by his name and by the book number to facilitate easy recall. He follows the same procedure in borrowing all other library materials. He may keep charged-out material until someone else wants it, in which case the library will recall it.

All books are indexed according to the Dewey Decimal Classification System. Under this system, a whole number stands for a broad subject category and decimals show subdivisions. Thus, all books on a given subject are shelved together. Books on radar, for example, are marked 621.38 and arranged alphabetically by author.

Before looking haphazardly for a book on the shelves, the seeker is urged to check the book catalog. This catalog is divided into three sections—author, title, and subject—and the 3 by 5 cards in each section are arranged alphabetically. The subject classification number in the upper-left-hand corner of each card serves to indicate the book's location on the shelf.

Printed indexes or cards such as the Library of Congress cards, which contain summarized data, are used whenever possible. Marked with the shelf location, they make a ready reference as to what is available and where. In fact, these timesaver cards with their summaries oftentimes satisfy the immediate needs of the engineer.

Raytheon's latest attempt at shortcutting involves the use of IBM equipment, which eventually may be used to index all material. Indexing the report collection eliminated more than half the time time spent in processing index cards, freed workers from many slow manual tasks, and permitted them to make one index suffice for several separate ones.

Need Became Apparent

The need of this equipment became apparent last May when the number of books, journals, reports, booklets, and pamphlets rose from 2,000 to an alltime high of 7,000.

The IBM system involves the use of a master tracing card that contains data from the index cards. The system permits librarians to "ask" the IBM machine what the engineer wants to know. In seconds, automatically sorted cards on one subject are isolated from thousands of others. Each card shows subject, report number, and the first line of the title or report desired. Also shown are author information, added entries, and other data to simplify the engineer's selection of available material.

Probably the next category to be indexed by the IBM equipment will be specifications since this will meet the increasing demand for such material resulting from the Pentagon's insistence on the use of military rather than commercial specifications. END

ABOUT THE AUTHOR: *Miss Alice G. Anderson, librarian at Raytheon's Wayland Laboratory for five years, is a graduate of the University of Massachusetts. After working in the college library there, she had nine years of professional experience before joining Raytheon. Miss Anderson is a member of the American Management Association and the Special Library Association. She is active in the Boston chapter of the latter group, which is composed of industrial librarians.*

Invaluable

Use of IBM equipment has enabled librarians at Raytheon's Wayland Technical Laboratory to index the large report collection. The machine frees clerks from slow manual tasks, speeds up selection of data by engineers.

Supervision *Can* Be Measured

BY *Robert T. Flynn*
Head, Office Standards
Systems Development Laboratories
Hughes Aircraft Company

MANY otherwise cost-conscious companies frequently ignore the field of supervision as one in which they can save money. Yet, supervision improvement can be as important to these firms as systems work, work measurement, and work simplification.

Supervision must be measured before it can be analyzed for the purposes of reducing costs and increasing efficiency. For one reason or another, however, supervisory-measurement programs are rare.

FIGURE 1

Supervisor's Daily Diary

Name: Joe Smith

Date: 3/28/60

ACTIVITY	*TIME (Minutes)*	*TYPE OF ACTIVITY*
P & P analysis—file pages	28	4
Supervision to Bldg. 6	10	3
Phone from Bldg. 17 lobby	2	1
Supervision to Bldg. 5	40	3
Supervision to Bldg. 12	6	1
Phone to outside (personal)	6	1
Supervision to Bldg. 19	45	3
Phone for vendor re schedule	6	3
Phone to vendor re schedule overtime	12	1
Correct and analyze monthly report	26	4
Supervision to Bldg. 6	5	3
Meeting W/F re personnel req.	22	2
Supervision to Bldg. 5	45	3
Vendor visit	41	2
Supervision to Bldg. 12	7	3
Phone for other recd.	2	1
Interview applicant	38	4
Phone from outside (personal)	5	1
Supervision to Bldg. 19	4	3
Sample inspect VRO's	28	4
Sample inspect Internal Acctg. Slips from Control Points OD	15	4
Open, read and file mail	21	4
OK and mail approvals to Accts. Payable	7	4
Discuss Olivetti with repairman	16	4
Prep. of P & P report	18	4
Personal call for attorney	6	1
Total	461 (7.68 hours)	

A word of caution should be noted before beginning a study of supervision: Only first-line supervision can be measured accurately. The added responsibilities of decision-making that consume the time of the next line of supervisors make measurement difficult.

When the question of supervision is brought to the attention of management, the reply is often, "I don't care if the supervision is adequate or inadequate as long as the department is functioning smoothly and the work is turning out." But this statement evades the fact that a well-running department may have *more* than adequate supervision. For example, a department that has twice as much supervision as necessary would indeed have a difficult time in not functioning properly unless it were composed of complete idiots.

Supervision generally comes into being for one of three reasons: (1) A new group is formed and requires a leader or supervisor; (2) An employee is assigned to a particular function. Later he requests assistance in this task and becomes a supervisor; (3) Several individuals performing separate functions are "put under one roof" and a supervisor is determined for ease in reporting.

How Much Time?

Before we can determine how much supervision each employee needs, we must know how much of his time is available for supervision. Although most employees are at work eight hours a day, these eight hours shrink due to fatigue and personal allowance. This amounts to about an hour a day, according to specialists in the clerical cost control field.

Coffee breaks, delays, phone calls, and other diversions eat up another hour. The average employee, therefore, starts the day with only six hours available to be supervised.

Of these six hours, how much supervision is required of the supervisor for each employee? One leading management consultant uses the maximum of 40 minutes per person per day for supervision allowance. This is about 11 percent

FIGURE II

Analysis of Supervisor's Time per Day by Type of Activity

TYPE OF ACTIVITY:	*1. Telephone*	*2. Meetings*	*3. Supervision*	*4. Administrative*	*5. Unaccounted for*	*Total*
3/28/60 Monday	2	22	10	28		
	6	41	40	26		
	6					
	12		6	38		
	2		45	28		
	5		5	15		
	6		45	21		
			7	7		
			4	16		
				18		
Minutes	39	63	162	197	19	480
Hours	.65	1.05	2.70	3.28	.32	8.00

of each employee's six productive hours. Since this is the maximum, the figure would be considerably less for highly repetitive and routine functions. For the purposes of this example, however, we will use the maximum. This eliminates any problems as to "Joe's department receives much more supervision allowance than mine." It will be demonstrated that even in utilizing the maximum allowance, we have been relatively conservative in respect to the whole field of supervision measurement.

The best way to determine supervisory effectiveness in a particular organization or department is to have each supervisor keep a record of his time. If the supervisor telephones, converses with an employee, or writes a report, he should record the time in a diary. After a sample period, individual supervision time can be determined. One week might be sufficient but a month would eliminate the possibility of an abnormal week distorting the measurement.

The supervisor should enter the amount of time taken for each activity as it occurs (Figure I shows a diary page for a typical day). After the supervisor submits his diary, management can analyze his work by ascribing each item to a particular type of activity.

These types of activity are divided into five areas: (1) Telephone, (2) Meetings, (3) Supervision, (4) Administrative, and (5) Special Assignment and Unaccounted for. After each item has been designated as to type of activity, it is entered under the proper category on a summary sheet (Figure II shows a summary by category of the items listed in Figure I). Then the days are added together to get a total by category and the percentage each category comprises of the supervisor's total time. Although the supervisor does not know that we are interested only in the time he spends on actual supervision, if any figure is padded it usually is not supervision. In addition, you can rely on a supervisor to account for 99 percent of his time.

Besides supervision time, there are other areas which we must consider in determining a supervisor's workload. Interruptions and delays, for example, should amount to no more than 15 minutes a day of the supervisor's time. If another supervisor or employee interrupts him with a standard question as to where is Mr. Jones or where is the cashier's office, it is evident that the total time for question and answer is in the realm of seconds rather than minutes. To use up 15 minutes in such a manner, the supervisor would have to be interrupted for a half minute during each 16-minute period. Few supervisors, of course, are bothered by such frequency of interruptions.

The time spent by supervisors in meetings and conferences generally can be determined by an actual allowance for the respective meeting or conference attended. This usually remains the same from month to month. If not, the time should not be allowed in the standard accumulation of time for the supervisor. If time spent in meetings is too high, the supervisor probably is neglecting his main function in favor of staff-type work. When this is the case, we have an indication that a full-time supervisor is not needed. The maximum time a supervisor should spend in meetings is approximately five hours a month (one one-hour meeting a week).

Miscellaneous activities, such as the preparation of reports and charts, vary with each organization. This is where the manager must make allowance. If the time spent on this item is excessive, however, then something is wrong and we must determine whether we have a staff man or a line supervisor. A maximum allowance for this type of activity should be no more than four hours a week.

Another item, special projects, cannot be predicted from week to week. It depends entirely upon the actual time involved in completing each project. Finding the amount of time devoted to special projects over a period of time can be another indication as to the necessity of a full-time supervisor. Obviously, a supervisor who spends 50 percent of his time on special projects is

neglecting something else—probably supervision.

Using these guides, we can establish the following maximum monthly time allowances:

	DAY	MONTH
1. Interruptions and Delays	15 mins.	5½ hrs.
2. Telephone	30	11
3. Meetings and Conferences		5
4. Miscellaneous		4
		25½ hrs.

Since the supervisor is at work for 176 hours a month (22 days X 8 hours), he has 150½ hours available for supervision and special projects (176 hours - 25½ hours). This means that he could adequately supervise 10 employees for 40 minutes a day and still have 4½ hours a month available for special projects. Thus, his time allowances would be as follows:

Joe Smith, Supervisor

	MONTH
Supervision	146 hrs.
Interruptions and Delays	5½
Telephone	11
Meetings and Conferences	5
Miscellaneous	4
Special Projects	4½
	176 hrs.

This guide—and it is only a guide—permits us to make the adjustments necessary to fit any supervisory position. It should be noted, however, that only maximum time allowances were used to prepare this guide. If a situation arises in which a larger allowance is necessary for a type of activity, compare the allowance on the basis of how many times it happens per day or per hour.

Detailed analysis of this sort will show whether the activity really requires a greater time allowance. Allowing an hour a day for telephone calls, for example, does not seem out of the ordinary if it is considered only as 22 hours a month. But if the supervisor in question has only five employees to supervise, and if each receives 40 minutes of supervision a day, he is devoting 3⅓ hours a day to supervision. One hour on the telephone out of the remaining 4-2/3 hours would be approximately 21 percent of his nonsupervisory time. This figure is obviously too high.

Supervision measurement, in addition to telling us how many supervisors are needed, also indicates how busy each one is. Have you ever heard a supervisor say, "No, I'm too busy to handle it"? Wouldn't it be interesting to know whether he really could handle the project? Some supervisors say "No" because they do not want any more responsibility. Others say "Yes" even though they have to sacrifice supervision time to get the job done. Neither situation is desirable. An analysis of the supervisor's position shows in advance what he should be able to handle without disrupting his organization.

Should we use this formula to analyze all first-line supervisory positions? The answer is yes, but with a reservation. The reservation is that some positions require only a periodic examination. Any supervisor who is supervising more than 12 employees, for instance, would automatically receive enough supervision allowance to keep him busy eight hours a day. This means that if he is going to meetings, preparing reports, etc., supervision time is being neglected. In this case, management would have to consider adding another supervisor or a part-time assistant supervisor.

Is the maximum supervisory allowance of 40 minutes per person per day adequate? For many situations it would be excessive. An example is the supervisor of delivery boys or mail messengers—they are delivering 50 percent of the time and are not available for supervision. This supervisor could supervise twice as many employees (20 or more) without damaging the quality of his supervision. Thus, the formula of one supervisor for each 10 to 12 employees cannot be inflexible although it would be much better than the intuitive method now used in many offices.

The other extreme is the case of the supervisor who is responsible for only four to six employees. This is where a supervision analysis program pays a dividend. By using it to calculate the time required for supervision and other functions, the following schedule can be prepared for the supervisor of a five-man department:

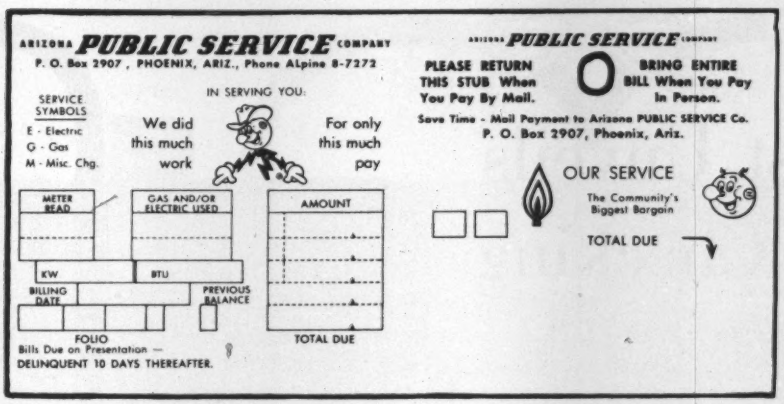
	MONTH
Supervision	73 hrs.
Interruptions and Delays	5½
Telephone	11
Meetings and Conferences	5 hrs.
Miscellaneous	4
Total	98½ hrs.

When these 98½ hours are subtracted from the 176 hours that are available each month, management can see that the supervisor has 77½ hours for other tasks. This time, of course, is available for special projects. But if we do not have 77½ hours of special projects, what should we do with his time? One possibility is to let the supervisor carry part of the workload—at least to the extent of the available 77½ hours. When a supervisor has only five employees to supervise, he can be a working supervisor, a lead employee. Also, when he is carrying part of the workload, it might be feasible to reduce the staff by one person. In fact, his being a little busier might make the supervisor happier and more efficient.

Where to Merge Groups

Another benefit of supervision analysis is that it enables management to determine where two groups with two separate supervisors might be combined under one supervisor. Some people are under the misapprehension that, since management is in a period of decentralization, each function or responsibility should be broken down into small groups headed by a supervisor. This is a misinterpretation of decentralization and should be recognized as the folly of "decentralization to the very bottom."

One final word of caution is in order. This method of measuring supervision is not gospel. It is a guide to use in preparing a program that will improve supervision in an organization. Although the figures cited are realistic and from specific case situations, they may not apply to every supervisor. Each situation may require adjustment in a different area but the end result will be the same: The supervisor will be measured and the manager will know more about his capabilities and how the operation is running. The manager may discover that his best supervisor is best because he has the time to be the best and that his mediocre supervisor is mediocre because he lacks the time to supervise properly. Also, it could point out that the best supervisor is the worst and that the worst supervisor is potentially the best. END



Arizona Public Service Company Prints Post Card Bills on EDP

WHEN Arizona Public Service Company converted its accounting and billing operations to electronic data processing in 1957, one of the major decisions that had to be made was the form of bill to be used.

The company had used post card bills since 1949. Because of the simplicity and economy of this form of billing and posting it wanted to continue using this system. The problem of adapting post card billing to high-speed printers was a difficult one, however, because there were no systems on the market that printed the customer's name and the billing data on one card at the same time.

In discussions with Remington Rand representatives, Public Service Company personnel came up with a plan that would allow them to produce post card bills on the high-speed printer. With the assistance of Moore Business Forms, a machine was designed that takes the printed bills on a continuous form, folds, seals, laminates, and chops the finished product into individual customer bills. Thus, the advantages of electronic data processing are combined with the conveniences of post card bills.

Public Service Company's billing operation consists of three basic steps:

1. A computer-processed billing tape is printed through the high-speed printer on a preprinted continuous billing form.

The left side of this form is the front, or address side, of the card. The right side contains the billing data. Use of this type of form eliminates the need for constant close control over the printing run required if the bills had to go through the printer twice, being printed on one side of a post card and then the other. Kilowatt-hours, therms, and dollar amounts are printed on the bill at the same time the customer's name and address are printed. This makes it simple to maintain the proper sequence between billing data and customer.

2. The printed bill form is then placed on the laminator, where the form is folded and sent through a sealing mechanism which uses both heat and pressure to seal the two halves together. A resin backing on the form provides the adhesive for a permanent seal.

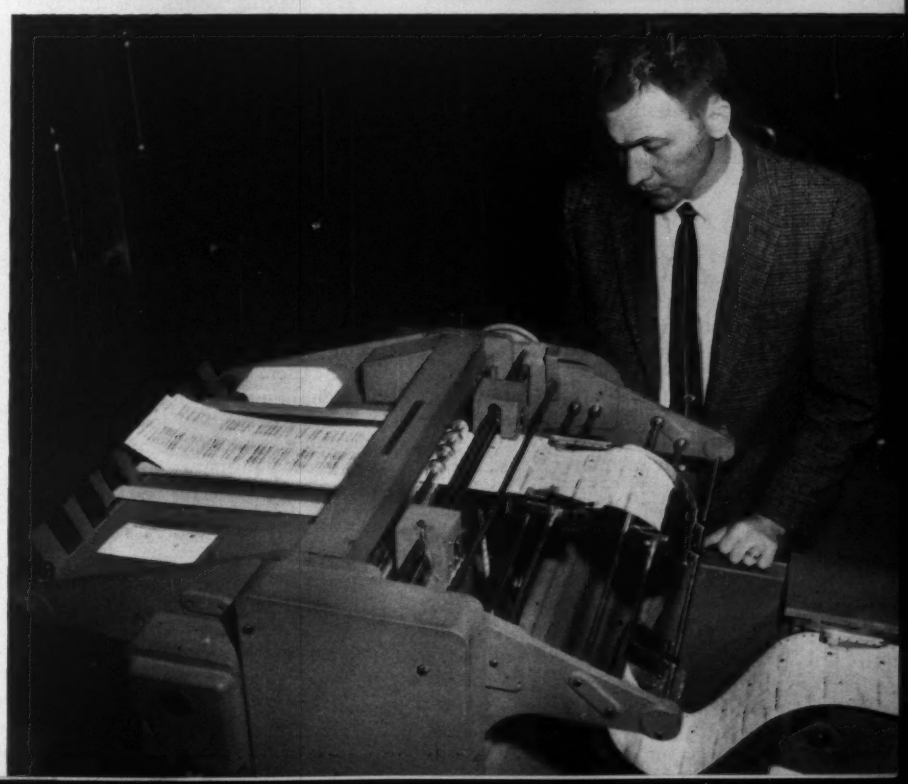
3. After the form is sealed, the mechanism then chops it into individual customer bills.

At present, cash stubs returned from the customer are double keystroked on a Unityper II, verified by the computer, and then processed. Information from the accepted and rejected stubs is then placed on magnetic tape where it is verified and merged by the computer and posted to the proper accounts.

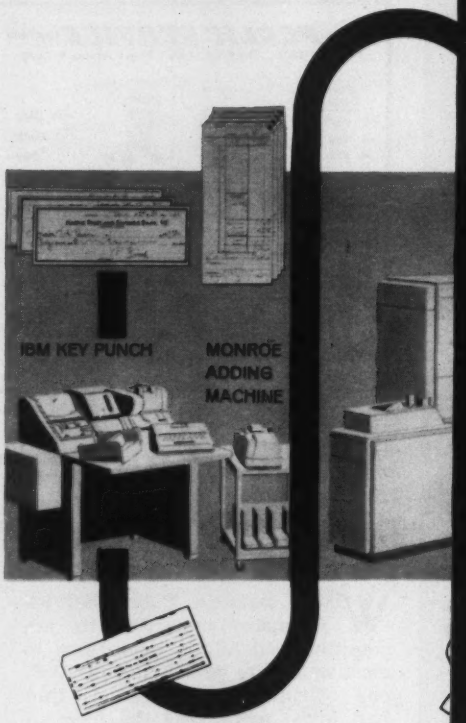
Beginning sometime this spring, the stubs will be run through a Farrington 9DP1 scanner, which will scan the account number and amount of money, and punch this information on paper tape.

The scanner will reject partial payments, mutilated stubs and unreadable stubs. These will be keystroked as exceptions on a Friden Flexowriter, producing a punched paper tape, or a Unityper II directly to magnetic tape. END

At the end of the billing process (below) the form is automatically fed into a cutting device which chops the form into individual post card bills. One of these bills is shown less than actual size above.



Harris Trust Unveils Automated Checking



BY *J. Allan Rhea*
Managing Editor

CHICAGO—Harris Trust and Savings became the first major bank in the country to place all its checking accounts under the control of modern electronic data-processing equipment. On February 17, bank officials demonstrated their entire system—a Remington Rand Univac II—in actual operation to members of the press.

The unveiling of the new check-handling system was the culmination of feasibility study and planning that began in 1953. After six years of this study, the operations research department decided that the installation of the Univac II would adequately handle the unique demands of Harris—a small number of large accounts, most of which are very active. Overall plans call for eventual conversion of Harris Trust checking accounts to a magnetic ink character reading system, according to Vice President Maurice K. Heald, head of operations research.

Other Applications

Other applications of the Univac system scheduled for 1960 include stock transfer accounts, which have already been put on magnetic tape, and personal trust accounts, which are in the "parallel operations" stage. (Parallel operations consist of processing the same data manually and electronically to compare costs, speed, and efficiency.)

What does this million-dollar-plus system do for Harris Trust? Although President Kenneth V. Zwiener foresees little cost reduction, he points to these customer service benefits: better audit control, automatic cost analysis, and the ability to compute the service charge of each account during the present month.

The system also provides the facilities for Harris to grow by adding to its present accounts. Through the use of electronic data-processing equipment, Harris and other banks are able to hold their own or increase their share of the expanding banking business.

Expanding Banking Business

It is this expanding banking activity that provides the stimulus for automation—at Harris and elsewhere. American banks are now handling about 10 billion checks a year. Within the next ten years this volume is expected to reach 22 billion—an increase of more than 100 percent.

The leading banks are discovering that manual methods are unable to cope with this tide. One man working at a bookkeeping machine, for example, can post only 360 checks an hour. But one man at the console of Harris's Univac II can arrange in sequence the records of 20,000 checks and deposits and post them to 6,500 accounts in one hour.

Although electronic data processing will ultimately reduce manpower needs, Harris President Zwiener says it will not displace workers. It will permit the bank to place them in "more interesting and challenging work," he believes.

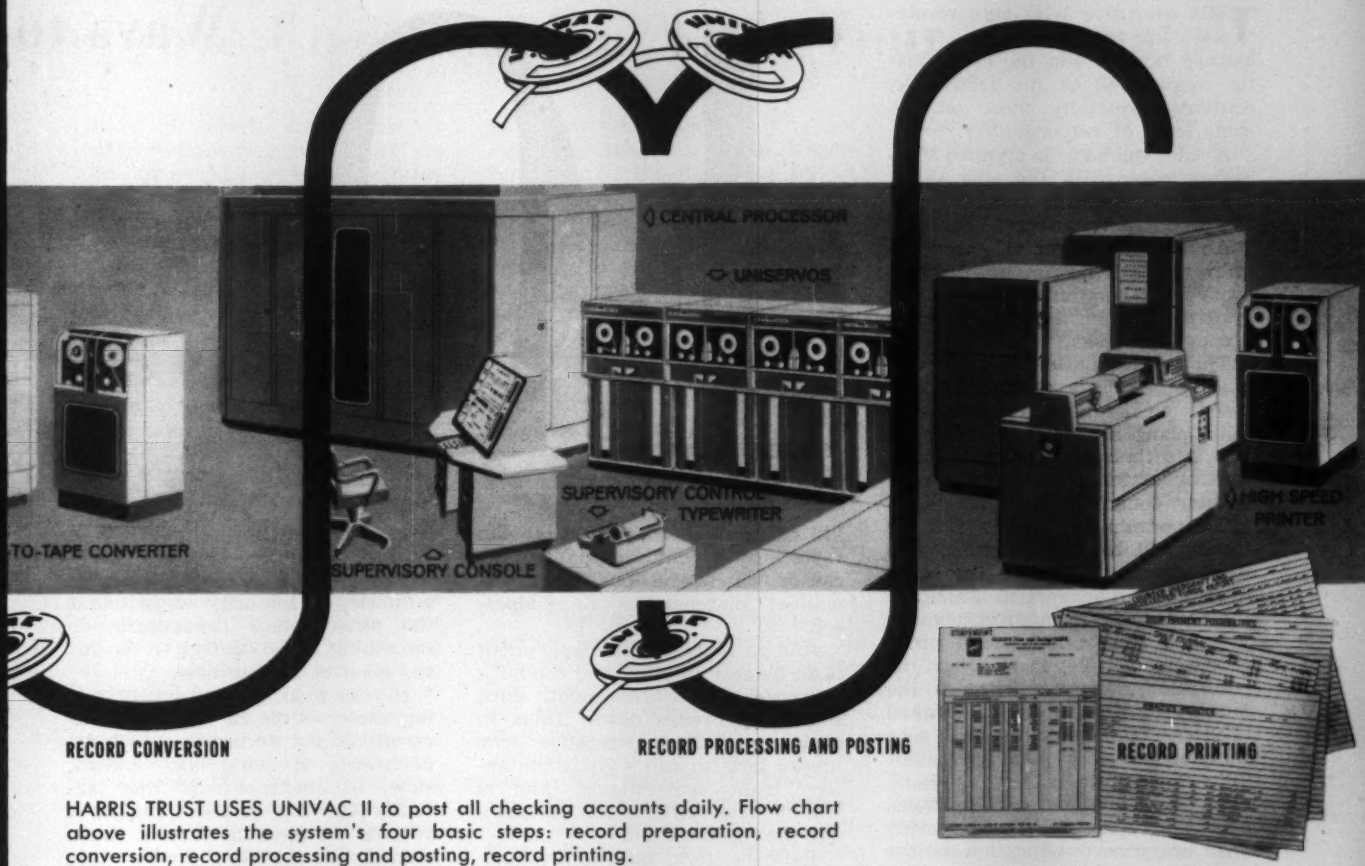
One of these new jobs is the key-punching operation essential to the record preparation stage. Key-punch operators at Harris are the former bookkeepers.

This record preparation is the first of four basic steps in the operation of Harris's Univac system. It is the only manual operation in the system. As checks (Harris receives 50,000 to 100,000 a day) and deposit slips arrive, the information they contain is punched into cards which the computer system can read, translate, and process.

These card data are produced by IBM key-punches coupled electronically with Monroe adding machines. Each card contains the data taken in random sequence from four checks. The combination of equipment provides an automatic doublecheck on the total dollar amounts of a group of checks.

Only the account number on each check is subject to human error and these mistakes have occurred on less than 1 percent of all items handled by the system.

In the second step, record conversion, the cards are sent to the card-to-tape converter. This electronic device reads the punches in the cards and translates the numbers into rows of microscopic dashes on magnetic tape—250 characters to an inch. It reads and processes 240 cards a minute. This conversion process includes



HARRIS TRUST USES UNIVAC II to post all checking accounts daily. Flow chart above illustrates the system's four basic steps: record preparation, record conversion, record processing and posting, record printing.

not only recording on magnetic tape, but also automatic rereading and comparing to assure accuracy in transcription.

Uniservos "Read," "Write"

The third step is record processing and posting. Here the magnetic tape is mounted on one of the 12 Uniservos in use at Harris Trust. The Uniservos are tape "reading" and "writing" devices which introduce the magnetic records of transactions, ledgers, and special directions into the circuits of the central computer. Operating instructions direct the balancing and sorting of transaction records, and cause them to be posted to their respective accounts.

Stop payments and other special conditions are noted and reported in the process. Then, with new balances reflecting the applied checks and deposits, the posted account records are written on other tapes to produce current magnetic tape ledgers. Thus, each customer's account is brought up to date on the same day of his banking activity.

The processing and posting operations are controlled by a supervisor at the control panel. Univac can communicate with the supervisor by means of an automatic typewriter.

In the final step, record printing, magnetic records are converted into humanly readable form. Univac's high-speed printer prints out customer statements and internal reports at the rate of 600 lines per minute.

System Is Refrigerated

The entire system is housed on the seventh floor of the Harris building in Chicago's Loop. With the exception of the key-punching equipment, the system is housed in a water cooled, air-conditioned room. Sixty tons of refrigeration are needed to keep the equipment at proper operating temperature.

To prepare for this installation Harris constructed a raised floor under which electrical conduits and water pipes were run. Operators were trained, and files and records were converted to handle magnetic tape. The final step was to run "parallel operations" for several months to compare the old system to the Univac II.

Harris presently uses its equipment eight hours a day, beginning at 1 p.m. Only about three hours of this time is used for actual data processing. The remainder is spent debugging the system and similar operations. During the 16 hours a day that Harris does not use the Univac II, it is available to other users on a service center basis.

Heald predicted the future usefulness of the system. "The day will come," he said, "when this installation will be used for all volume account processes, for compiling statistics to assist management, for economic studies and surveys, and for other needs not even foreseen today." END

10 Ways to

THE executive who gets results is the executive who has learned how to win the enthusiastic cooperation of his fellow executives—especially those on the same level of responsibility.

A sales manager is stymied if he cannot work with the advertising manager, the credit manager, and the production manager.

An office manager will soon acquire ulcers if he runs into a fight every time he wants to improve a system, redesign a form, or move a couple of desks.

The public relations director will quickly become a candidate for a rest home if other executives keep their plans a secret, do not take him into their confidence, or begin making statements on their own without consulting him.

The purchasing agent will be tearing out his hair in great gobs if he cannot induce all the other department managers to anticipate their wants far enough in advance to enable him to do a sound job of procurement. (Yet in many an organization, every requisition to the purchasing department is marked "Rush"—"Emergency"—"We are completely out of this item"—or "Please expedite.")

In still other organizations, everything seems to run smoothly with everyone working toward the same goals. Wherever good coordination is found, it is usually the case of a lot of hard work having been done to teach men to work together. This does not happen naturally; department managers do not pull together until they learn to trust each other and until they find from experience their contributions to the success of any project will be fairly recognized and recorded.

Progress Depends on Friendship

How much progress any department head makes is largely dependent upon his ability to win the friendship, loyalty, and cooperation of other department executives. At every turn he finds an iron curtain facing him if he does not know how to work with other men whom he must stir to action by persuasion and skill, rather than by force and authority.

Says an office manager, "We could get along with fewer people if the sales department would adopt our ideas for writing orders and use a modern order blank."

Says the sales manager, "We push our men to increase volume and build business but our buyers kill off more business than we can replace by a penurious policy that causes us to be out of much-wanted merchandise in midseason."

And so it goes: One department head blames another, and the buck is passed month after month until something breaks down. Then, in comes some new executive who knows how to call signals the entire team understands, and a wholly new spirit is felt throughout the organization.

Patience, tact, skill, understanding, and a sympathetic attitude toward the other fellow's problems—these are the ingredients of success in working with other department managers. Suppose we consider some of these factors in the following 10 ideas for getting better results from interdepartmental projects:

1. *Decide in Advance What You Will Contribute.* All too often we call a group of men together to get somebody else to do a job. A suggestion system executive recently said 99 percent of all suggestions called for some other person to do something. "I'd like to see a suggestion submitted in which the suggester himself offers to do something," he said.

In getting a group of fellow department managers to agree on a project, volunteer to do your share first. If your share is minor, or if some other department will have to bear the biggest share of work burden, get that other department's approval before you mention the subject to others.

2. *Don't Step on Anybody's Tender Toes.* Naturally, every department manager is to some extent jealous of his authority, prerogatives, and responsibility. It is a ticklish business—especially when two men of about equal levels in authority or seniority suggest that the other man's department do something, even though it is for the good of the business.

If your plan is based on correcting some source of complaints or errors, do not accuse the other departments of being lax, careless, slow, or inefficient. If they actually are any of these things, it will do no good to remind them. Admit they are doing the best that can be expected under extremely difficult conditions. Do not put another department manager in a position where he is forced to oppose your plan just to save face.

3. *Do Not Minimize the Other Fellow's Contribution.* Many a small conference or meeting has disbanded with ill feelings all around because somebody said, "Why all you have to do is . . ." It is so much better to say, "I know you are shorthanded and handicapped with inadequate equipment, but do you think you can pull something out of the hat and bring this off?"

Show Confidence in Ability

It is better to grant that the other fellow has problems too, and to prove that you understand and sympathize with him.

Without indulging in idle flattery, give the other fellow fullest credit, and show that you have confidence in his ability to help put the plan into action.

4. *Prepare a Schedule or Timetable.* Most plans fail because everybody waits for somebody else to act. Then, when somebody

Improve Co-ordination With Your Associates

starts to check up, everybody seems to be waiting for advice, for the "go ahead," or for some other detail to be completed by someone else.

Arrange the plan in logical sequence. Break down each part of it, set a date for completion of each step, and decide—and get agreement on—who is responsible for what. Encourage different people to meet with each other informally to check progress. Decide when the next get-together should be held, or when the next report is due. If necessary, get permission from top-level management to set aside other duties, or to assign special help to the project if its importance warrants such action.

5. *Agree Upon a Coordinator or "Followupper."* If more than three people are involved in any project of any kind, anywhere, one of them will be late in doing his or her share of the work. No need to complain—no need to fuss and fume. People are built that way. No two people operate at the same tempo; no two people seem able to keep time with each other without some prompting, followup, or coordinating by another party. That's why the orchestra leader beats time.

Allow a reasonable amount of time for each step in the plan. Unless you are experiencing some emergency, do not expect other department managers to neglect their routine responsibilities and tasks to do something special. Allow for delays—such as obtaining outside help—over which your group has no control.

6. *Keep a Record of What Is Said and Done.* Tell six men to "meet me in the conference room at 10 a.m. Thursday," and on Thursday morning two men will be there as promised.

One man will telephone that he is "snowed under," and can't come at all. Another will say he thought the day set was Friday. Still another will assert he "understood it was 11 a.m. instead of 10 a.m." *The sixth man will forget all about it!* Only way to avoid such mixups is to make a written record, to call the six men the previous afternoon to remind them, or to ask their secretaries to remind them.

Any agreement, any schedule, any joint plan will be misunderstood by some men. If it is not misunderstood, it may be forgotten. Even if the items are put in writing, some men will lose the memorandum or interpret it incorrectly. If these failures to understand, if common forgetfulness, and the general frailty of human nature cause you to fly up in a tantrum, or to ask, "What's wrong with those dumb guys?" you are not a good leader. To win cooperation, you must have the tact and patience to get things done, and to get men together despite all these human frailties. Never get the idea that any of us are free from some of these common faults.

Give Men Motives

7. *Give Each Man Involved a Special Motive.* At a meeting of several department men, a production manager was asked to turn out a highly competitive product at a very special price. He complained it was impossible. "If you can do this you'll be the most envied production man in this industry," said a sales executive. And that simple phrase turned the trick. The production manager came up with a shortcut that whacked a big hunk off the cost. Do not expect other men to break their necks just because *you* are enthusiastic about a plan. Work out a method in advance which shows every man involved where it will improve his position in the organization to do what you want done.

8. *Bring Proof That Your Plan Benefits the Company.* Base every proposal on the sound ground that it is for the benefit of the company as a whole. If your proposal is actually of companywide benefit, and you can prove it, half the battle is won. But if it seems to favor your department too much, rest assured somebody will throw in a wrench.

Know enough about other departments to be able to show each manager where he will benefit from your plan. If you fail in this, even though he agrees to work with you, his performance will be somewhat less than wholehearted.

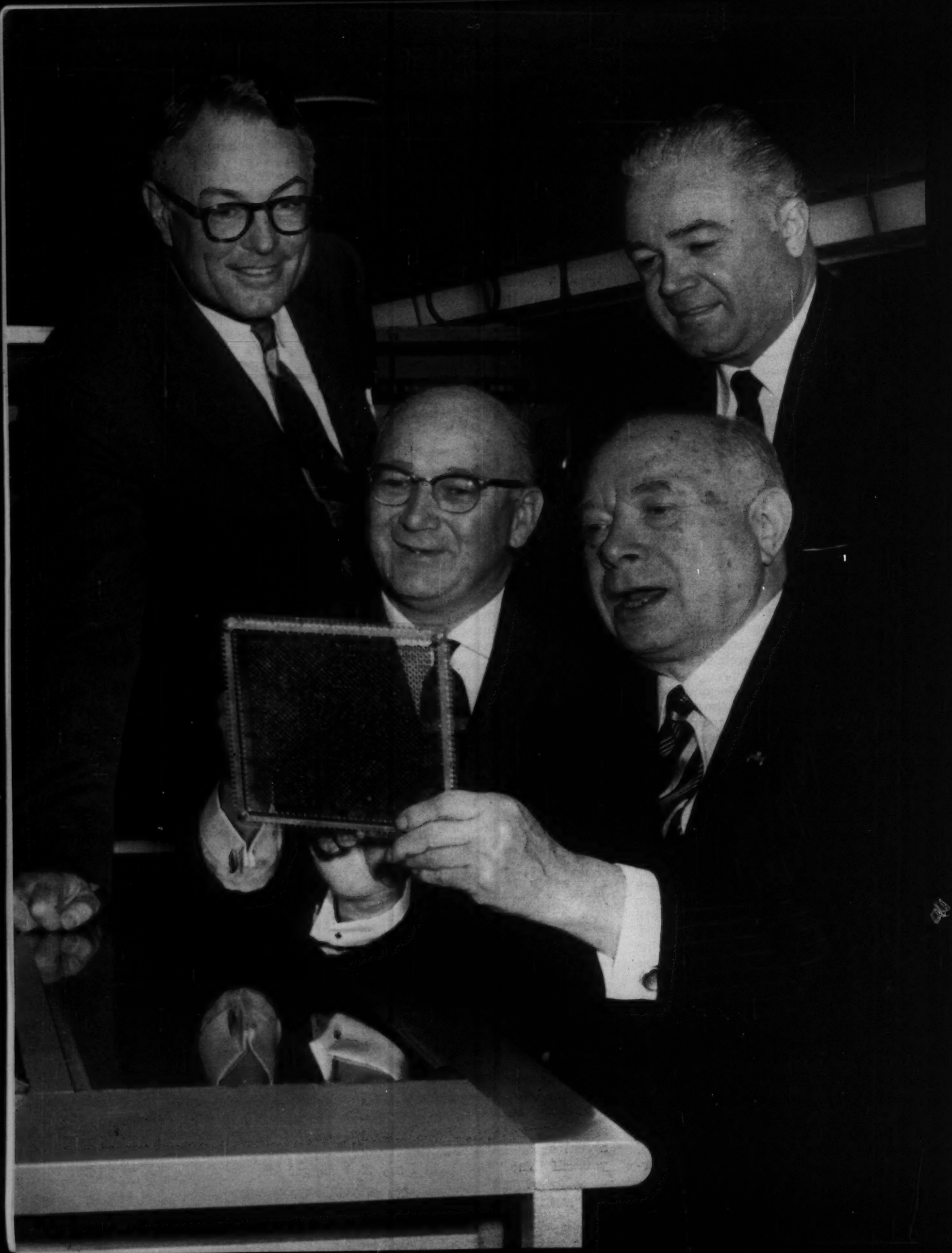
9. *Anticipate the Objections Sure to Be Raised.* In every proposal somebody will be likely to find a real or an imaginary flaw. Ask yourself this: "What will I say if somebody claims we have tried this before?" Chances are, somebody will say exactly that. Then anticipate the "costs too much" objection and prepare an answer. Go over the common objections and work out the answer in advance. No matter how enthusiastic you may be, somebody will hurl a bucket of cold water on your plan, even if only to test your zeal. Be prepared for it; and do not act hurt, disappointed, crestfallen, or ill-humored when a fellow executive seems to be somewhat less than bubbling with enthusiasm for your project.

10. *Expect and Be Prepared for a Compromise.* When you ask for $10,000 to put your plan across, someone will surely say, "How about $5,000?" Or, when you propose a change, somebody will say, "How about trying this out in one territory only?" Somebody else will be almost sure to say, "Well, we ought to wait a year before we tackle it." Remember that some of these suggestions may be good. All business progress is the result of change, improvement, revision, compromise. Do not scorn other people's ideas, suggestions, or proposals. Fight for your own ideas with all the zeal and enthusiasm at your command, but always remember the other fellow may have something on the ball as well as you have.

If you have used these 10 ideas for putting across a project and have encountered no insurmountable obstacles, your project is probably a success.

If it does succeed it will be smart to thank everybody who helped, and to be generous in giving credit to your associates. The more credit you give them, the more they will give you. The more credit you try to grab, the less they will want to allot to you.

Write a brief note to the effect that "The success of our fall project was in no small measure due to your fine work, and I want you to know that we appreciate your work." It will go a long way toward paving the way to another successful project. With today's shortage of executives, you need put across a surprisingly few successful projects until somebody taps you on the shoulder for a bigger job. END



RCA Opens Data Processing Center To Serve Wall Street Brokers

NEW YORK—The first full-range electronic data-processing center designed to serve New York's financial and business community opened in February at 45 Wall Street. The $4.5 million Electronic Systems Center is built around two Radio Corporation of America electronic data-processing systems.

The systems will enable brokerage firms to provide full-trade computations, same-day confirmations, daily margining and stock records, and monthly statements to customers.

RCA President John L. Burns, officiating at the opening, said the center represents "a new adventure in the science of computation," offering "the first full-range service for the nerve center of American finance."

A demonstration of the center's operation, which can cut in half the present paperwork of brokerage firms, was witnessed by leading members of the financial community. Among those present were Keith Funston, president of the New York Stock Exchange; and Edward T. McCormick, president of the American Stock Exchange.

Center at 45 Wall St.

The new center occupies the entire sixteenth floor at 45 Wall Street. Independently air conditioned to insure cleanliness and accurate humidity control, it contains two RCA 501 data-processing systems behind ceiling-high glass partitions, plus other areas for maintenance, communications, programing, and training facilities for customer representatives.

Here the all-transistorized systems will receive commercial data in raw form from firms in the Wall Street area. These data will go through a variety of computations at split-second speed to deliver the results desired by the clients.

The center will be staffed by 90 RCA specialists—systems planners, programers, operators, and maintenance experts—and will operate around the clock. Each day's business will be processed for delivery to client firms the following morning.

At the outset, clients are expected to hand-deliver records of transactions and other information in punch-card form. Ultimately, data will be transmitted by wire from the client to the center where it will be reproduced on perforated tape.

In the input process, the punched cards or paper tape will be converted to magnetic tape for introduction into the computers along with the associated program or instructions.

For output, the process will be reversed. The data from customers will be converted from magnetic tape to the form specified by the customer—punched cards, paper tape, or printed reports—by RCA's 600-line-per-minute printer.

Geared to supply a full range of data-processing services for banks, brokerage houses, insurance companies, and other firms, the center will perform these functions:

1. Routine daily and periodical accounting and business office operations, thus reducing tedious clerical tasks;

2. Processing of data for better and faster management control and decision-making;

3. Tying together interrelated but separated activities within the same corporation;

4. Providing data-processing facilities for decentralized divisions of large corporations;

5. Helping to stabilize costs for companies with large workload fluctuations;

6. Servicing companies that require data-processing facilities for excess volume.

Explaining RCA's concept of providing centralized service to multiple customers, Burns said that advanced data processing had been within the economic reach of only the largest firms, on a rental or ownership basis.

"Our Wall Street center, and others we will open across the Nation, will spread the cost base so that firms of all sizes can participate with financial strain to none," Burns said.

Will Curtail Paperwork

The immediate purpose of the service is to curtail the mounting volume of paperwork involved in financial transactions, to speed up the process of obtaining essential information, and to reduce the amount of human labor involved in distilling and collating that information.

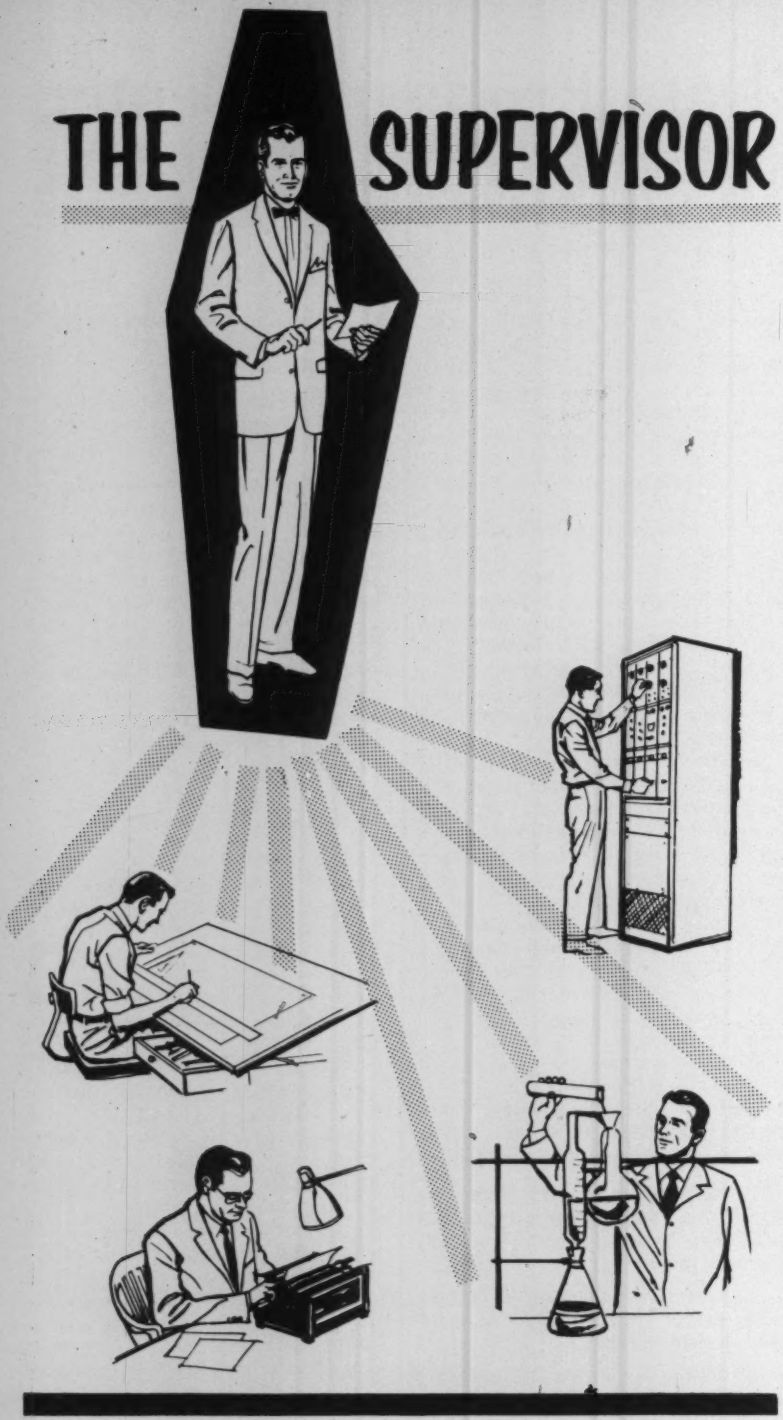
"These savings in time and money can be enormous, but they are secondary to the dominant purpose of the computer. That purpose is to make easier, and more efficient, the critical process of management decision.

"The computer will never replace the manager, but by getting relevant facts to him in simplified form, by narrowing the gray area of surmise, the computer can become management's most powerful ally in making the right decisions promptly."

A similar center is under installation by RCA in Washington, D. C., and three others are planned for major business markets in the West and Middlewest. END

← OPENING CEREMONIES AT 45 WALL STREET—Brig. Gen. David Sarnoff (lower right), RCA chairman of the board, displays electronic data-processing magnetic memory core device. Looking on (left to right) are Keith Funston, president of New York Stock Exchange; RCA President John L. Burns (seated); and Edward T. McCormick, president of American Stock Exchange.

THE SUPERVISOR Determines



BY *Eugene Raudsepp*
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Deutsch & Shea, Inc.

Although top management establishes the creative climate in most companies, it is the immediate supervisor who stimulates or stifles creativity. Here are 15 guideposts to use in directing the creative staff.

IN most organizations top management is responsible for the general creative climate—the degree to which new ideas are welcomed or scorned and their originators rewarded, ignored, or frowned upon.

Within the general boundaries, however, it is the immediate supervisor of creative personnel who actuates the flow of creative expression, whether it be ideas for new products, advertising copy, or what-have-you. By his policies and day-to-day direction he stimulates or stifles.

To maintain a favorable *daily* climate, such a supervisor has to have tact, good judgment, and insight into the human personality. Not only are creative people different but a staff of them probably represents a greater diversity of temperament than does a similar-sized group of accountants, draftsmen, or almost any other collection of white-collar specialists. Intensifying the problem, creative people probably experience wider and more frequent fluctuations in individual mood.

Silk Gloves Not Necessary

This is not to suggest that creative people should be handled with silk gloves like a bunch of Fancy Dans or prima ballerinas. They should not be so regarded. But to induce maximum performance from his staff the supervisor has to be especially deft and observant. These 15 guideposts—some of which apply with almost equal validity to the supervision of *any* type of personnel—have proven helpful to many executives responsible for directing a creative staff.

1. The supervisor should have an objective yet compassionate understanding of creative temperament. He should have tolerant and respectful awareness of individual differences among his subordinates —their powers and their weak-

Productivity of Creative People

nesses; their motives and their interests; their fears, dislikes, and enthusiasms.

Since there are many kinds of creative individuals, each responds best to individualized direction and treatment. A blanket approach to the needs, psychological and others, of *all* creative people on the staff does not work.

Learn About Motivation

Consequently, the supervisor must seek to understand what motivates each person and then try to develop everyone in the direction best for him. He can help each person produce his best by helping him find his best, and then letting him release it in his own way.

2. If the supervisor understands the creative process he knows that creativity occurs in spurts and that the flow of ideas is more likely to be pulsating than continuous. Periods of sterility or dormancy may actually mean the gathering of new strength and direction. He should also have an insight into the blocks that inhibit creativity and should understand the methods that can be used to release creative aproaches in his subordinates. His understanding of the nature of the creative process should be more than intellectual or rational; it should be a part of his total personality.

3. He should have a high degree of ability in his own right and a "feel" for his work developed from firsthand experience. But this high degree of ability should be based on a breadth of experience in different areas rather than expertise in one. He should be able to inspire the confidence and respect of the creative people he supervises.

Most occupations have evolved to such a degree of complexity that only an active, curious, and expansively interested person who reads and studies in many diverse areas can come up with significant new ideas. Although the supervisor and the people under him must know one area thoroughly, this specialization has to be counterbalanced with a versatility of experience and knowledge in other areas. In short, the creative person has to be generalist as well as a specialist.

4. He should have an active imagination and one that expresses itself in an ability to recognize the merits in a wide range of novel ideas. He should be able to visualize the possibilities inherent in ideas that first seem remote from the particular needs of the problem under consideration.

5. The supervisor should be a stimulating adviser and teacher who can furnish the inspiration to keep things moving. He should have plenty of contagious enthusiasm and should constantly encourage his people to come up with new, imaginative approaches. He should take an active interest in the efforts and problems of his subordinates.

6. He must want to see his people succeed without being afraid or envious of them. He should understand himself well too, and be conscious of his own deep-rooted attitudes so that these do not emerge to aggravate or reinforce the existing emotional peculiarities of his subordinates.

The supervisor should have a lot of patience, be generous with encouragement and appreciation, and derive genuine satisfaction from seeing his staff perform well. He should give praise when praise is due, show appreciation for good work, and give acknowledgment. If some people put in extra time after hours on their work, he should let them know that he is aware of it. However, he should never encourage them in a condescending manner or as a manipulative gesture.

7. The effective supervisor should have no feelings of insecurity about his own position. He should be able to accept the ideas of others while freely and willingly admitting that they are frequently better than those he could have come up with. He should be more interested in seeing the idea succeed than in gaining any personal glory as the result of the idea.

He should never dominate his group, and when he himself produces ideas, he should do it without showing off. He should be accepted by his people as a colleague who operates with them on an integrated, reciprocal basis.

8. Occasionally he has to bolster the self-confidence of his people to insure sustained effort. He can do this by showing them that he has confidence in their ability to come up with something good and that he depends on their skills.

Role of Self-Confidence

Self-confidence plays a tremendous role in creativity. Without it the aspiring creative person will not do justice to his creative potential. Fear of criticism, fear of supervisor's or colleagues' opinions or disapproval, doubts about his own ability, or fear of appearing too revolutionary can inhibit creativity. The effective supervisor who is aware of this shows in action and speech that he has absolute confidence in his staff.

9. He should provide an atmosphere that encourages venturesome approaches and a feeling in the creative people that they are not closely scrutinized and accountable for every idea at every moment. This atmosphere can be called "controlled freedom."

Some creative people, of course, need constant pressure to produce, but they are probably in the minority. Others rely on constant interaction with associates to set the wheels of thought into motion, but once the creative process is underway, they need freedom from interruption. At this stage in the creative process close control is to be avoided.

The supervisor knows that if he wants his creative people to remain creative some provision has to be made for liberating them from the harassment of daily detail so that they can occasionally devote time to thinking and reading in areas of their own choice.

This enables them to increase their fund of the total experience upon which they can draw when creatively engaged. It also restores their creative vigor.

One of the most ingrained and harmful fallacies of management and supervision is that vigorous physical activity, e.g., shuffling of papers, attending one meeting after another, brisk striding through the corridors, etc., characterizes an efficient, productive individual, whereas one who sits and thinks is reveling in slothful idleness. Subordinates have to get the feeling that sitting and thinking is not interpreted as wasting time.

Hours Should Be Flexible

With the really creative people, the hours should be completely flexible. This may be difficult to do in many business organizations where there is a tremendous resistance toward making special rules for creative people for fear that this might wreck the morale of the rest of the work force. This fear is exaggerated. The advantage of special rules is not.

10. The supervisor should be able to suspend judgment in the beginning stages when the lines of approach are still in flux. This certainly puts him to quite a test, but nothing can inhibit creativity more than premature evaluation applied during the incubational period. Judgment, evaluation, criticism have their place but it is at the conclusion and not at the beginning of a creative venture. If the supervisor must criticize, he should do it only when his reasons for criticism are specific and constructive. In every case, criticism should be tendered skillfully and tactfully.

Creative people are usually extremely sensitive to open or even implied criticism of their ideas. Rare indeed is the creative worker who has an unemotional, impersonal, and objective attitude toward criticism, who has learned to ignore unfounded criticism and benefit from that which is justified and useful. This ability to be objective about criticism comes only in time and is based on a series of solid successes with challenging problems. Yet, even then, perhaps because of the creative person's constant need to prove himself anew, indifference to criticism is never fully achieved. No matter how experienced the creative worker, overcritical attitudes, cynicism, ridicule, or even plain indifference on the part of the supervisor are tremendously destructive of idea-producing ability.

There is a tendency to use split-second judgments—usually negative—when appraising the value of a new idea. Therefore, it has been suggested that a good rule to follow is: "It will be illegal to object to any idea on the same day it is presented."

11. The supervisor has to exercise great care in delegating responsibility for assignments in order not to antagonize his people. He should make assignments that will conform to the personalities, interests, and abilities of the individuals. This requires knowledge of each individual's particular pattern of strengths and weaknesses and his interest areas so that the individual contributor is assigned to an area where his chances for contribution are the greatest. The highest kind of creativity cannot emerge when individuals have been pushed into performing a task. It can only emerge when the individual feels a personal or emotional commitment to an area of interest.

12. After the tasks have been properly assigned, the supervisor should exert minimum direct influence on his people, especially in regard to the particular approaches or ideas they want to adopt. He should make sure that his instructions do not incorporate his own ideas as to the angle or approach to be used. Some subordinates, out of fear of antagonizing the supervisor, may not dare to come up with a better suggestion.

Lead by Suggestion

The supervisor should lead by suggestion rather than by specification. It usually is best to practice a hands-off policy once the work has been assigned. This does not mean that all deadlines should be abolished. It means, rather, that the supervisor should be a disciplinarian, without seeming to be one. He has to maintain reasonable order and see that his subordinates are kept reasonably close to their objectives. But the type of supervision that is called for with creative people is a subtle one with none of the coercion, dominance, and authoritarianism traditionally associated with management.

13. The supervisor should know when to take the idea from the creative person. Taking the idea away from the person too soon may result not only in resentment, but it may also imperil the life of the idea. Not to take the creative person's ideas after they have been completed is equally ill-advised because the person may take it as an evidence of neglect or rejection of not only his ideas, but of himself.

14. The supervisor should be a sympathetic, friendly person who likes both people and ideas; who has high standards of personal integrity and who is able to be either serious and sincere, or humorous and relaxed—as the occasion demands. He should also be patient and tolerant and extremely flexible in both thinking and acting.

15. His one outstanding skill should be in the area of communications. This skill should span areas that encompass the abilities to express ideas clearly; to guide by questioning; to lead and arbitrate discussions; and the ability to ask intelligent, searching questions that stimulate, spur, and encourage thinking and work.

He should also make sure that his people communicate with persons in other lines of endeavor in the organization. This is useful because it provides them with fresh stimulation and a challenge to sharpen their ideas when explaining them to persons having a different field of interest.

The supervisor should establish small discussion groups for educational purposes. These groups should be made up of men from all areas of supervision, as well as from the creative staff. Current problems and views should be openly explored together at these meetings. Upon the supervisor also falls the responsibility to maintain open, effective communications at all times within his department or group, with other departments in the agency, and with top management. END

ABOUT THE AUTHOR: *Eugene Raudsepp, research consultant for the New York technical manpower consulting firm of Deutsch & Shea, has contributed much to knowledge of industrial creativity. His articles have appeared in business, technical, and sociological journals. Among his articles in preparation are "Does Our Culture Really Encourage Creative Expression?" and "Prevalent Misconceptions About Creativity."*

"Don't File It—Throw It Away"

THE files of American industry contain more than 1,250,000,000,000 (one and one-fourth trillion) pieces of paper, each of which costs about 1 cent a year to store and maintain.

Another 175 billion pieces of paper—enough to fill one file drawer for each of the Nation's 62 million workers—are added to this total every year. The annual cost of producing this paper is in the vicinity of $50 billion and comprises one-ninth of the gross national income.

Shocking as these figures are, even more shocking is the fact that most of these papers could be destroyed or moved to low-cost records storage centers. Such action would plug one of management's biggest profit drains and free millions of clerical employees for more economically productive work.

This situation has stimulated Emmett J. Leahy, New York management consultant, to develop a nationwide system of business archives. In February Leahy unveiled the latest of these archives in Centex Industrial Park, Elk Grove Village, Ill., to serve the business needs of the Chicago area. His other installations include two archives in New York City (one is in the basement of the Empire State Building); one in Whitehouse, N. J.; and another in Miami, Fla.

Chicago Archive Is a "First"

The new suburban Chicago structure is the first business archive to be built specifically for that purpose rather than as a conversion of an existing building. The $200,000 center consists of 80,000 cubic feet for records, but can be expanded to bring its capacity to 1 million cubic feet of records. When this expansion is completed, the center will house as many records as the National Archives of the United States in Washington, D. C.—in only one-tenth the floor space and at one-twentieth the cost.

In addition to storing their records, Leahy advises businessmen when to throw them away. Thus, the Leahy Archives system is an equal partner with the company's retention schedule. "It keeps the schedule alive by maintaining a steady and constant flow of records from active to inactive status and, eventually, to destruction when not prohibited by law," Leahy said.

"Many companies retain us as management consultants. In this capacity, we help them determine which of the records must be retained and which can be thrown out. Then we set up a schedule that will permit certain old records to be destroyed periodically, thus making room for the new crop. This procedure reduces the cost since clients' storage charges

RECORD CHECKING IS SPEEDED with the special earphones worn by Regional Director Harry J. Brown. At left is Emmett J. Leahy, Archives president.

are based on the volume of records they have in the Archives."

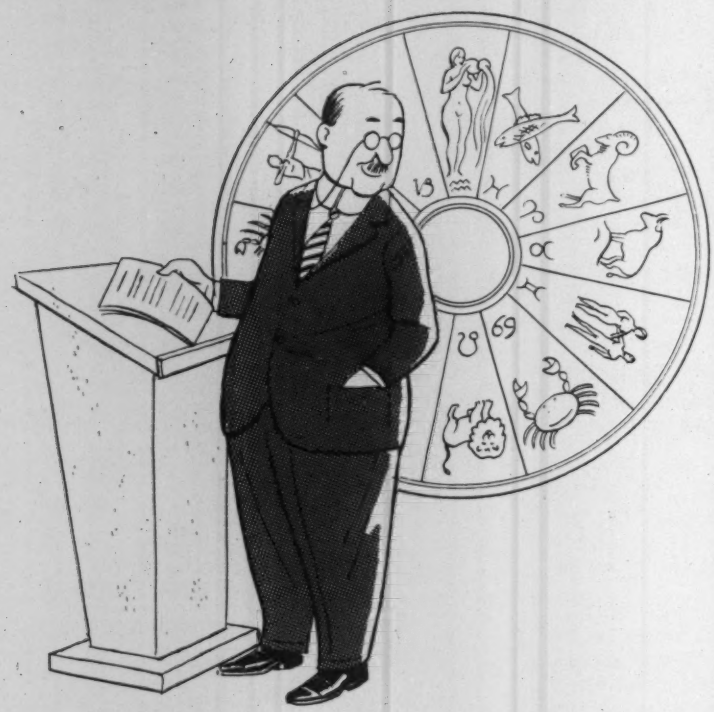
Although the records in Leahy Archives are termed "inactive," some of them are quite active. Archivists wearing headphones swarm through the vault-like building withdrawing records for customer reference. Sometimes they read the vital information to the customer on the phone; other times the actual document must be sent to downtown Chicago or some other location so that the client can use it. The archivists then extract the documents by means of a simple coding system and deliver it within an hour. The Archives provide 24-hour emergency service if necessary.

The cost of these services is less than the companies would pay to store and maintain their own records, according to Leahy. He asserts that the average company spends $250 a year to maintain a four-drawer file and that the entire contents can be stored in his archives for 24 years at a cost of $200.

Leahy developed his system of records storage and disposal during World War II when then Secretary of the Navy Frank Knox placed him in charge of the Navy's records management program. This program was credited with saving the government $21 million in storage costs. After the war, Leahy headed the government records management task forces of the two Hoover commissions. These task forces' recommendations resulted in an estimated $50 million saving.

Since he established his own company in 1948, Leahy's advice to business has been the same as he has given the government: "Don't file it—throw it away!"

END



The Professor...

BY *Herman Slavin*
Director
Guidance Associates

POLITICIANS are credited with having developed the technique of setting up a straw man, knocking him over, and patting themselves on the back for it. If politicians have recently borrowed techniques from scientists, it is not strange to find a scientist borrowing an idea from the politicians. This, I believe, is what Dr. Ross Stagner, chairman of the Department of Psychology at Wayne State University, did recently, as reported by Edith Goodman in "Professor Gulls Personnel Men With Phony Psychological Test," AMERICAN BUSINESS, December 1959.

As readers will recall, Dr. Stagner gave a personality test to a group of personnel managers at a conference at the University of Illinois. Edith Goodman reported that "The tests were taken, collected, and actually scored, but two reports were prepared. One was a true profile based on scoring according to the key of the test; the other was a group of very general statements made up of items taken from dream books and astrology charts."

The "analyses" given to the personnel managers came from the second category and were identical for each person. Nevertheless, 50 percent described the report as being "amazingly accurate overall pictures of their personalities; another 40 percent thought them good." The unkindest cut of all was Dr. Stagner's assertion that the personnel managers, who had previously "proclaimed their invulnerability to fake psychological services, were actually more gullible in acceptance of the 'phony' profiles than groups of college students to whom (he) previously gave the same tests."

Importance of Numbers

The professor then went on to expound the importance of numerical scores and how essential they are to the validity of any test. Surely, he implored, the personnel experts should have known this fact and not have been taken in by unsupported, generalized comments.

If Dr. Stagner had been talking about intelligence tests, aptitude tests, or even vocational interest tests, I could understand his emphasis on validity and his insistence on numerical scores. But personality tests are entirely different.

Of the several hundred existing personality tests, possibly a half dozen are used extensively. Let us see what the authors and other experts have to say about the validity of these tests and the use of their numerical scores.

Effect of Single Answer

One such widely used instrument is the Bell Adjustment Inventory. Although quantitative norms are available for this test, Professor Bell wrote in the manual, "The interpretation of individual scores is made more meaningful by the use of certain descriptive designations. However, the difference between two descriptive terms should not be overemphasized, *since a difference of only one point* frequently determines whether a score falls under one heading or another." (Italics are mine.) Bell's categories are Excellent, Good, Average, Unsatisfactory, and Very Unsatisfactory, and it is obvious that changing the answer to a single question on the test could mean the difference between Average and Unsatisfactory.

Thorpe, Clark, and Tiegs, among the Nation's leading psychologists, stated in their manual for the California Test of Personality, "The field of personality testing is in a state of flux, and it will probably continue to be so for some time. At the present time no one knows the answers to many important questions . . . Psychologists will continue to disagree among themselves with regard to the use of both clinical procedures and inventories." This leaves little basis for looking down your nose at the poor benighted personnel men who did not immediately ask for percentiles and testimonials of validity.

Thorpe, Clark, and Tiegs also said that on some parts of the test, "a score of 10 yields a percentile rank of 40; a score of 11, a percentile of 60; and a score of 12, a percentile of 80 . . . These sharp percentile scales pose a practical problem . . . The counselor should examine the scores as well as the percentile ranks since this clarifies the *generalization* that lower per-

centiles represent difficulty while higher percentiles represent adjustment or at least knowledge of acceptable behavior and attitudes."

Rather than insisting on the use of numbers, these men suggest that the test user avoid leaning on numbers for support. As scientists, they have reported the numbers because this is what they found. But as openminded and responsible scientists, they warn: Do not be carried away by the aura of precision that numbers give.

In the Thurstone Temperament Scale, the author reported a close relationship between scores on the test and ratings of sales supervisors of *good* as against *poor* workers. As he noted, "The results of (a study of teachers) indicated that four scales (out of seven) *may* help discriminate between teachers who are effective and those who fail in various classroom situations." On office workers: "The *failure* of the Schedule scores to discriminate between good and poor office workers seems to indicate that the temperament characteristics leading to success or failure vary from job to job." Thus, he provides more evidence that cautious and careful descriptive terms are more meaningful than a series of numbers.

The Thurstone Temperament Schedule does have percentile figures, although they are not used for evaluation. On Scale A, for example, a score of 9 is at the 35th percentile and a score of 11 is at the 60th percentile. A single answer, therefore, could move a testee's score from the 35th percentile, clearly below average, to the 60th percentile, clearly above average. Would Dr. Stagner contend that these are meaningful scores?

Tests Measure Tendencies

Perhaps the most widely used paper-and-pencil personality test is the Bernreuter Personality Inventory. Prof. Bernreuter wrote in the test manual that on one scale, persons scoring high "prefer to be alone . . . Those scoring low dislike solitude and often seek advice and encouragement." The other scales were described in similar terms. Once again, no emphasis was made on numbers—percentile or other.

Prof. Donald G. Super of Columbia University has this to say about test scores: "Although it has been assumed that there should be linear correlations between certain personality traits and success in some occupations, for example, social dominance and selling, submissiveness and bookkeeping, introversion and research or writing, such relationships are found in very few occupations."

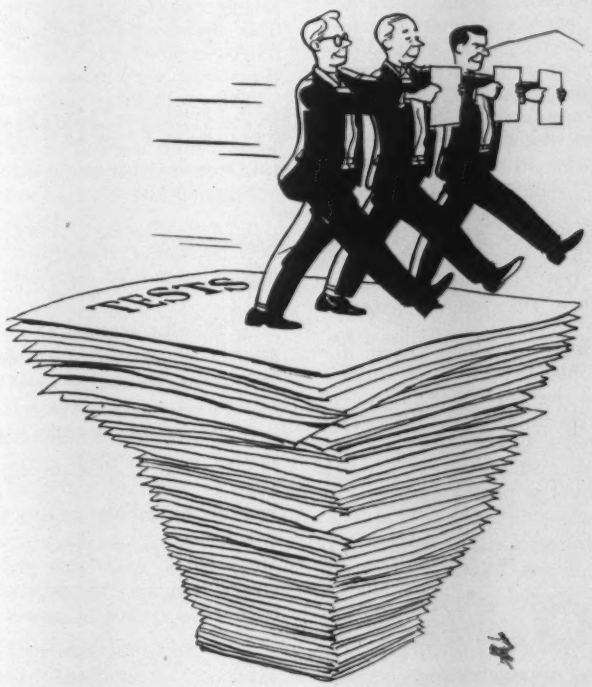
He further declared, "When the data are examined in detail, they do *appear* to reveal differences between normal and many groups of abnormal individuals, even though these differences are not so clear cut as one would wish . . . unfavorable scores do *tend* to have significance, although favorable scores *are not necessarily a sign of good adjustment.*" (Italics are mine.)

Are numerical scores essential to the validity of a personality test? "Yes!" exclaimed Dr. Ross Stagner, as reported in a recent AMERICAN BUSINESS article. "No," replies Herman Slavin in the rebuttal below. Mr. Slavin explains why, in his opinion, numerical analyses tend to destroy, rather than to enhance, the value of a personality test. He also criticizes the methods and conclusions of the hoax that Dr. Stagner perpetrated on personnel managers.

...and the Personnel Men

Changing Nature of Tests

If we need further proof of the changing nature of personality testing and the dubious value of percentiles and other numerical evaluations, we need only turn again to Thorpe, Clark, and Tiegs. In their manual for the California Test of Personality, they declared, "Individual reaction to items is obtained, not primarily for the usefulness of total or section



scores, *but to detect the areas and specific types of tendencies to think, feel, and act which reveal undesirable individual adjustments.*" (Italics are theirs.)

I think that Professor Super delivered the *coup de grace* to the whole matter of insistence on personality test scores and to unjustified reliance on personality test validities by his statement, "Our current knowledge of the role of personality tests in education and in work is impressionistic or, when quantitative, superficial."

"Let Buyer Beware"

We need to spend merely a moment on the projective tests of personality. The best known of these are the Rorschach and Thematic Apperception tests. Both of these are clinical instruments. Used only by highly trained clinical psychologists and psychiatrists, they offer no scores and their validity in many areas is the subject of long standing and vigorous debate.

Dr. Stagner urged *caveat emptor*—let the buyer beware—on all test users. I agree completely. I would add, however, that we should be most wary of percentile and other scores on personality tests.

Another illogical assertion of Dr. Stagner's is that personnel men are gullible when they accept terms borrowed from astrology and other equally dubious sources. Surely, astrology and graphology should not be granted a monopoly of scientific terms. In fact, many of the phrases used in the fake test are no strangers to psychology texts, articles in professional journals, and reputable personality tests.

Let us take a second look at some of those phrases which, presumably, the personnel managers should have rejected as patently fraudulent.

"You have a great need for other people to like and admire you," was the first of the "phony" characterizations. Does this differ greatly from Question 17 on the Bernreuter test, "Are you much affected by the praise or blame of many people?"

Dr. Stagner's astrological excerpt No. 3 was, "You have a great deal of unused capacity which you have not turned to your advantage." That this terminology is peculiar to dream books is hard to understand. Question 25 on the California test uses almost the same words, "Do your friends seem to think that you have made the success of which you are capable?"

It would be no great feat to track down each of the "phony" descriptions to highly respectable sources. I have no doubt that dream books and astrologists use these terms. But it seems reasonable to believe that they were borrowed originally from authoritative psychological works to lend a pseudoscientific aura to pseudoscientific pronouncements.

The words, the phrases, even the thoughts, belong to no one group. The essential question is what use is made of them and how well equipped are the persons who use them. The personnel men had every right to assume that Dr. Stagner was teaching them something of value rather than making them the butt of a rather childish and inept hoax.

I also disagree with Dr. Stagner's proclamation that the personnel managers were more gullible than the groups of college students upon whom he played the same trick.

Students of statistics and testing quickly learn the importance of identifying the group from which the test norms were obtained. Norms are of value only in appraising members of the same group. Different groups yield different results for obvious reasons. The more select the group, the more its answers, scores, or reactions will vary from the average.

The following differences between college students and the personnel men, therefore, are important reasons for their different reactions to the test:

1. *Age*—College students: about 20; personnel managers (if they are managers): between 30 and 35;

2. *Family status*—College students: unmarried in most cases; personnel managers: married, two children;

3. *Work experience*—College students: two to four years of part-time or summer work, usually unrelated to career goals; personnel managers: 10 to 15 years of full-time work of which eight to 10 years are in the personnel field and three to five in supervision;

4. *Vocational interests*—College students: diversified, including engineering, business administration, science, and liberal arts, plus many undecided; personnel managers: strong social service and persuasive interests on the Kuder Vocational Interest Test, and weak outdoor and mechanical interests.

Students vs. Personnel Men

Many college students, for example, use security as a criterion in their vocational choice. But when faced with the statement, "Security is one of your major goals in life" (Answer No. 7 on the analyses), how much more applicable is it to men over 30 with families and at least five years with the same employer than it is to college students?

Although I might list other differences, I believe those enumerated are sufficient to show that any similarities between the personnel managers and a large group of college students were purely accidental. These differences, rather than gullibility, are more than sufficient to account for the differences in the degree of acceptance of the "phony" analyses by the two groups.

One type of validity that almost all test makers start with is face validity. They ask themselves these questions about each item on the test: Does this item appear to belong in this type of test? Does it appear to measure intelligence, mechanical aptitude, art judgment, or whatever else it purports to determine? Does it differentiate between the reserved individual and the outgoing type? These questions, of course, are only the beginning of the long and complicated road to sound validation.

Let us look at the face validity of Dr. Stagner's statements as they applied to the personnel managers and to the college students. We ought not to assume that Dr. Stagner did not select his material, even if he found it in dream books and astrology. It is doubtful that he put hundreds of sentences into a hat and used the first 13 he drew out. In order to give his statements a semblance of plausibility, he made reasonably careful selections. Perhaps he chose better than he thought, and unconsciously created a self-portrait of a personnel manager.

And it is certainly reassuring to know that personnel men, as a group, have few problems with sexual adjustments. END

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BELOW: Reception area of design center is on second level which also houses executive, administrative, and design offices, and conference room.

ABOVE: Exterior view of Sundberg-Ferar's new design center shows four-way cantilever that supports second level. Lower level is built of split fieldstone.

BELOW: Carl W. Sundberg and Montgomery Ferar stand in front of their new design center at 10½ Mile and Telegraph Roads, Southfield, Mich.

Sundberg-Ferar Design Firm Opens Center at Southfield, Mich.

SUNDBERG-FERAR, INC., recently opened its sparkling new design center in Southfield, Mich. The center is the world's largest independent and completely integrated industrial design establishment, according to its principals, Carl Sundberg and Montgomery Ferar.

Situated on an eight-acre landscaped plot, the design center houses both the design and administrative staffs and the firm's extensive model shop. An experimental pond for testing boats, motors, and fishing and water-sports equipment is scheduled for completion in the spring of 1961.

The building is constructed of split fieldstone, steel, glass, and concrete, with the second floor and roof supported by a four-way cantilever. The exterior of the lower level is split fieldstone to blend with the rural setting, and the exterior of the upper walls is sheathed with precast panels of concrete, quartz, and granite chips.

Glass Is Specially Treated

The large glass areas on both levels have been specially treated for heat-and-glare resistance and freedom from color distortion. The entire building has been air conditioned and sound insulated, and has electronic dust-collecting equipment to assure comfortable, immaculate working conditions.

The model shop is located on the ground floor. Also on the lower level are paint-spray facilities, a truck entrance for shipping and receiving models and materials, and an elevator for transporting completed models to the design display areas on the upper level. The second level houses the executive, administrative, and design offices, and a three-way conference room which also serves as a display and demonstration area.

The new center is the fifth home for the Detroit-based design firm, whose original studio a quarter-century ago was located in a converted coal cellar in the home of one of the partners. Since 1951 the firm's offices had been in Royal Oak, Mich. END

ABOVE: Montgomery Ferar holds staff meeting of designers on new typewriter project in the conference room of the design center. BELOW: View of Carl Sundberg's office reveals that the new center is as modern and functional within as it is without.

Time has brought decisive progress in the fight against cancer. Ten years ago one in four persons with cancer was saved. Today it's one in three. But time alone will not conquer cancer. Time plus research will. And research needs your dollars. Send your contribution today to "Cancer," c/o your local post office.

AMERICAN CANCER SOCIETY

Office Engineering Degree Proposed

A SPECIALIZED college course leading to a degree in "Office Engineering" or an equivalent has been proposed by Frank B. Puckett, sales manager of the Columbia-Hallowell Division, Standard Pressed Steel Company.

Speaking to the Stationers Association of Washington, D. C., Puckett made the new proposal as "one long-range step to upgrade the office furniture industry by attracting high-caliber sales personnel to the field."

Referring to the shortage of well-trained office furniture salespeople as a situation common to most manufacturers and dealers in the industry, he said, "Now is the time to begin preparations for where we want to find ourselves in 10 or 15 years. One way to attract alert young people we will need in the future is to interest our colleges and universities in offering an office engineering curriculum. With the trend toward automatic data processing increasing every day," Puckett explained, "the office will gradually become a scientifically planned work center requiring trained specialists to lay out and design complete office areas in addition to selling the furniture and equipment to go in it."

END

Extra Services

(Continued from page 16)

management to encourage self-improvement, especially in specialized courses which improve job performance. This committee is responsible for informing the group on evening classes available whether it's high school English or college business administration. Many employees would be interested in home study courses if they knew what was available and the particulars in enrollment. The company could very profitably subsidize this part of the group's activity.

Number 5.—Share-the-Publication. This committee is responsible for the club library. There are many helpful publications designed to help families better manage their affairs; i.e., "Kiplinger Changing Times." Rather than 100 subscriptions at $6, the committee could subscribe for six copies to be passed around. The same practice could be used for other publications including book-club subscriptions.

Number 6.—Club Finance and Investments. This committee, in addition to handling the club's finances and dues, should be responsible for group education on financial matters. The November program could be devoted to income taxes, conducted by the company accountant, advising what can be done now to lower taxes due in January. Any reputable insurance counselor would be glad to participate in a program designed to familiarize the group not only on life insurance but the advantages of the homeowner policies. An investment program could be formed by the committee to encourage the members to invest their food savings in the club to finance appliances, even automobile purchases, of the employees at a nominal rate of interest. And to invest in prudently selected (management assistance) inflation-resistant common stocks.

Number 7.—Recreation and Social. Needs no further explanation.

This sort of a group would be decidedly unwieldy for a company with 1,000 employees; however, this plan is devised for 100 or less employees.

An official company publication is of great importance in keeping all personnel informally informed, with no great expense involved.

It must be recognized that a plan of motivation, a plan to improve personnel relations, is not wholly effective unless it acts as a cleansing agent; that is, casting a spotlight on those undesirables who can't be moved with a bulldozer. This plan will automatically highlight those employees who should be working for a competitor.

The expense of maintaining good employee relations is just as important in the company's operating budget as any other item of expense.

Finally, the plan should not be permitted to wither and die. Constant rejuvenation is necessary for maximum benefits. END

Microfilm Program Eliminates Files

A NEW MICROFILM program in the deed vault department of Chicago Title and Trust Company has saved important time and dollars for the firm.

Faced with mounting costs of maintaining millions of records plus the increased time spent in retrieving documents from files, the department is now filming records and using a new microfilm reader-printer to consult them as needed.

Prior to the microfilming of records, the original had to be pulled from the file and sent to other departments. When they were returned later, the originals had to be refiled.

Assistant Vice President Lawrence Kuske estimates that each regular filing cabinet costs $22 a year in overhead. When the entire files are condensed to microfilm, however, they will occupy only 2 percent of the space required for regular files.

William H. Johnson, head of the deed vault department, adds, "Many of our records—quit claim deeds, warranty deeds, mortgages, and releases—are referred to daily, and what we wanted was a program that would allow us to return the microfilm images to their original state to be sent to other departments.

"As we investigated the problem we found that two rolls of microfilm—with a capacity of 9,000 original documents—would contain the same material held by one standard-size filing cabinet."

As a result, Chicago Title and Trust purchased a microfilm reader-printer from Minnesota Mining and Manufacturing Company. The machine reads film like ordinary viewers, but also makes ready-to-use enlarged copies in seconds by pushing a button. The unit accepts microfilm in reels, jackets, and cards on either 16 or 35mm. film. Copies are made automatically and no operator training is necessary.

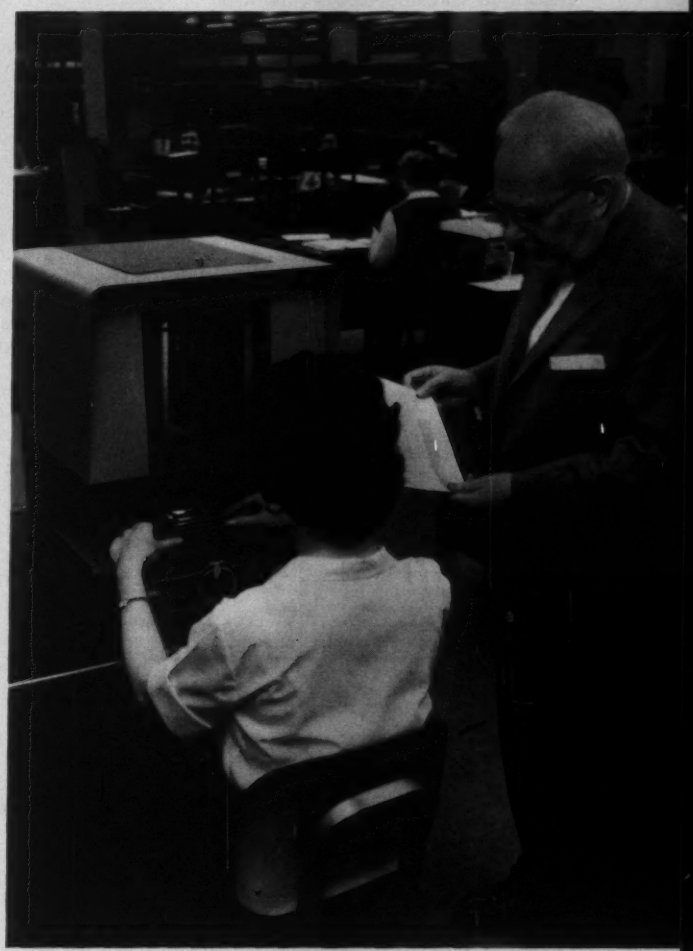
Unit Produces Work-Size Copies

The new machine is a tabletop unit that produces sturdy, work-size copies to be forwarded immediately to the departments concerned. The unit is located adjacent to the filing area for easy access by clerical personnel since expansion of the system is anticipated.

"One of the most significant developments in recordkeeping is microfilm," says Kuske, "and we feel that our introductory program will provide us with the necessary data to consider further microfilm activity throughout our firm."

So far only a fraction of Chicago Title and Trust's deed vault department's files have been converted to film, but because of anticipated lower costs of making enlarged copies, more and more records are slated for filming.

"We are constantly looking for improvements in our operation that will give us better service at less cost and in less time," says Johnson, "and our new system has all the earmarks of doing just that." END



KEY TO NEW SYSTEM at Chicago Title and Trust is a "Thermo-Fax" microfilm reader-printer. William H. Johnson, head of deed vault department, examines a document print made on the machine.

Health Department Streamlines Invoicing With IDP

ACCOUNTING machines joined to card-punch machines have streamlined data processing at the Maryland State Department of Health in Baltimore. One operator handles each two-machine combination, in which a card-punch machine becomes a slave unit to a typewriter-bookkeeping machine.

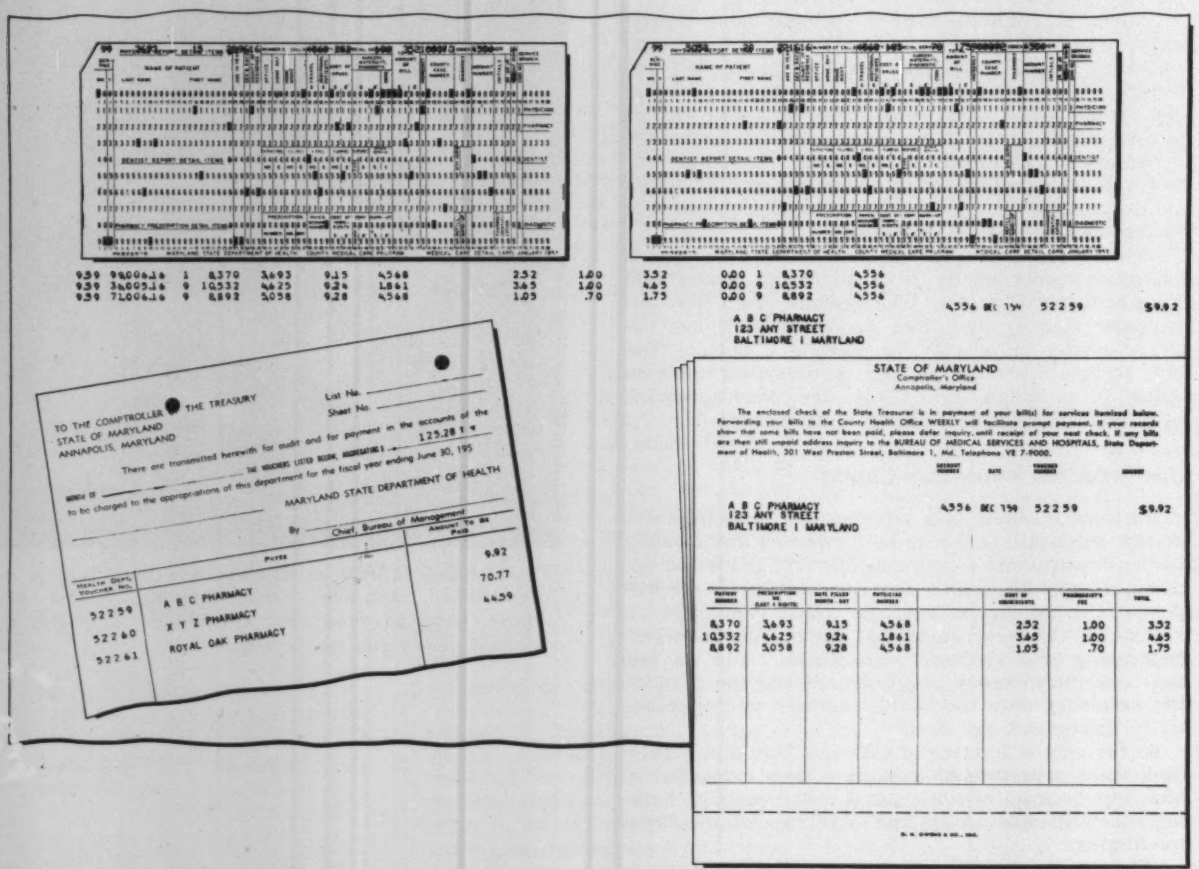
The Department of Health equipment prepares hard-copy remittance advices and disbursement summaries, and simultaneously punches tab cards needed for periodic statistical reports. This arrangement permits the cards to be verified at no extra cost—important in an operation where 30,000 invoices are processed per month.

The installation consists of four Class 31 bookkeeping machines manufactured by the National Cash Register Company. Each unit is connected through an NCR "intercoupler," to an IBM card-punch machine. The intercoupler permits one person to handle both the bookkeeping and punch-card equipment. As the operator enters data on the keyboard, the information is printed on hard-copy records and punched simultaneously into cards.

The four Class 31 machines are installed in the Baltimore offices of the state health department's bureau of management. The equipment processes invoices received from physicians, dentists, and pharmacists who serve indigent persons enrolled in the state's medical care program.

Processing consists essentially of transferring data from vendor invoices to the multicopy remittance advice, transmittal list, and the punched cards. A separate bill is submitted, and a separate tab card is prepared for each patient. The remittance advice accumulates in detail all invoices received from a particular vendor during a given period, while the transmittal list contains a one-line entry for each vendor showing the total amount of his bill.

The data the operator reads off the invoice and enters in the machine include: name or account



ALL FOUR OF THESE FORMS—tab cards, remittance advice, transmittal list, and backing sheet—are prepared concurrently by NCR-IBM combination. Zero proof on journal sheet verifies accuracy of invoice and assures that tab cards have been punched accurately. Both verifications are a byproduct of posting.

MACHINE OPERATOR IS ABLE TO POST and produce punched cards simultaneously with this IDP installation consisting of NCR Class 31 bookkeeping machine controlling slave IBM key punch through an NCR intercoupler.

number of medical care recipient, information on the type of service performed, itemization of charges, and total amount due for services to that individual. The remittance advice is prepared first, simultaneously with the 80-column punched card. The carriage is then shifted and the vendor's name, total amount of his invoice, and the voucher number are entered on the transmittal list, which remains in the machine while bills from several vendors are being processed.

Operator Gets Zero Proof

When the operator makes an entry on the remittance advice, she must pick up, not only each charge, but the total amount as listed on the invoice. The NCR equipment automatically subtracts this total from the sum of the charges and prints the answer—which should be zero—on a backing sheet. If she gets a zero proof, the operator knows: (a) the vendor figured his invoice correctly; (b) she picked up each figure accurately; and (c) the card was punched without error.

Incidentally, by verifying the arithmetic on the invoice in the process of checking the operator's accuracy, the equipment has produced an additional saving of time and effort. If the proof on the backing sheet is a figure other than zero, the operator knows the vendor made a mistake or she did. In either case, the error is easy to trace and correct since all documents needed are in front of her.

In case a figure is punched into the card that does not agree with that printed on the remittance advice, the intercoupler automatically locks the keyboard of the Class 31 machine, alerting the operator in unmistakable fashion that something has gone wrong.

Besides making errors easier to detect, the equipment has eliminated a data-processing bottleneck. Previously, a tabulator was used to record and summarize medical care disbursements, which were punched into cards in a separate operation. This equipment also was used for a number of other tabulations and reports, and the size of all the jobs was increasing steadily. Switching preparation of the disbursement forms to the Class 31 machine has provided about 25 percent more time than formerly for the remainder of the tabulator workload.

The bureau has nine NCR Class 31 machines. Four record medical care disbursements, while the remainder, which do not have intercouplers and slave card punches, handle payroll, accounts payable, and general ledger work. When this latter load is particularly heavy, the machines normally assigned to the recording of medical care disbursement can be drafted. The intercoupler attached to each unit is disconnected simply by turning a keyboard switch. END

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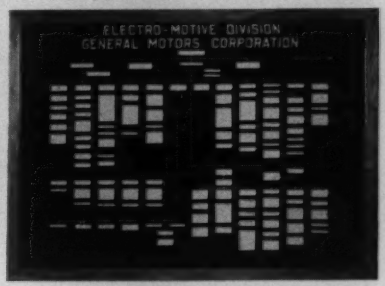

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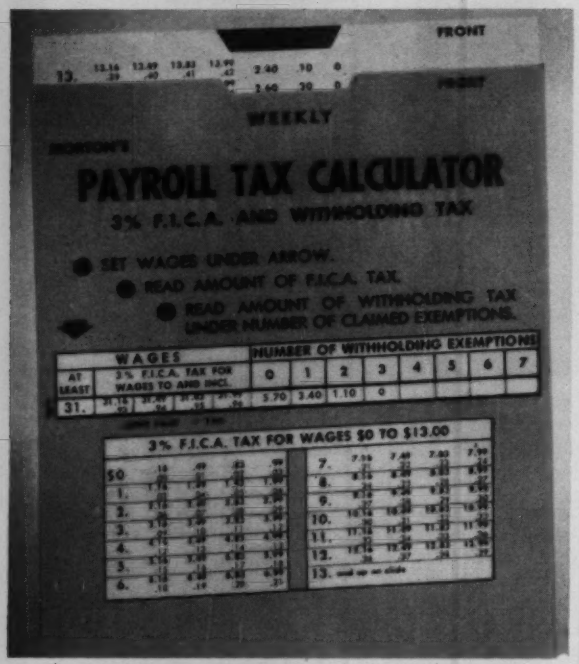
NEW SYSTEMS AND EQUIPMENT



Bulletin Board "Heals" Itself After Puncture by Thumbtack

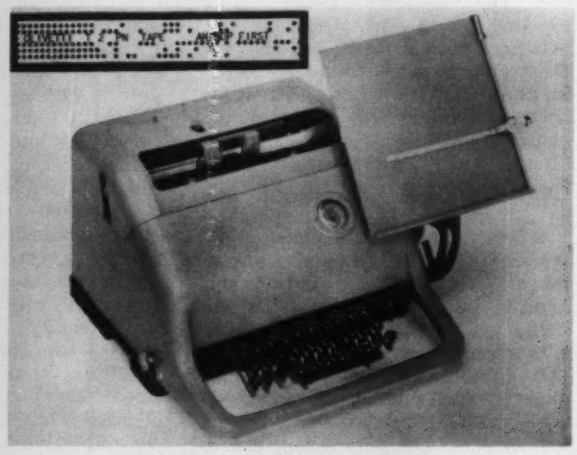
An answer to the "bulletin board blues"—for office girls, schoolteachers, and homemakers alike—has recently been developed in the form of a vinyl-on-cork material that actually "heals" itself. Demonstrated at the right, the new Cork-Tex Wall Covering is first punctured by an ordinary thumbtack (left), then the tack is removed (center), and seconds later the puncture has vanished completely (right). Bond Crown & Cork Division, Continental Can Company, Inc., 1819 N. Major Ave., Chicago 39, Illinois.

New Type of Calculator Quickly Figures Payroll Deductions

A new type of calculator that quickly figures payroll deductions for all types of pay periods operates like a slide rule but reads like a table. It is set up to comply with the new 3 percent F.I.C.A. withholding tax rate. There are two models—for wages up to $200 a pay period, and for wages from $200 to $500. Both models are made of vinyl plastic in 4½- by 10-inch size. Paul S. Morton Engineering Service, 5131 Meadowlark Lane, Kalamazoo, Michigan.

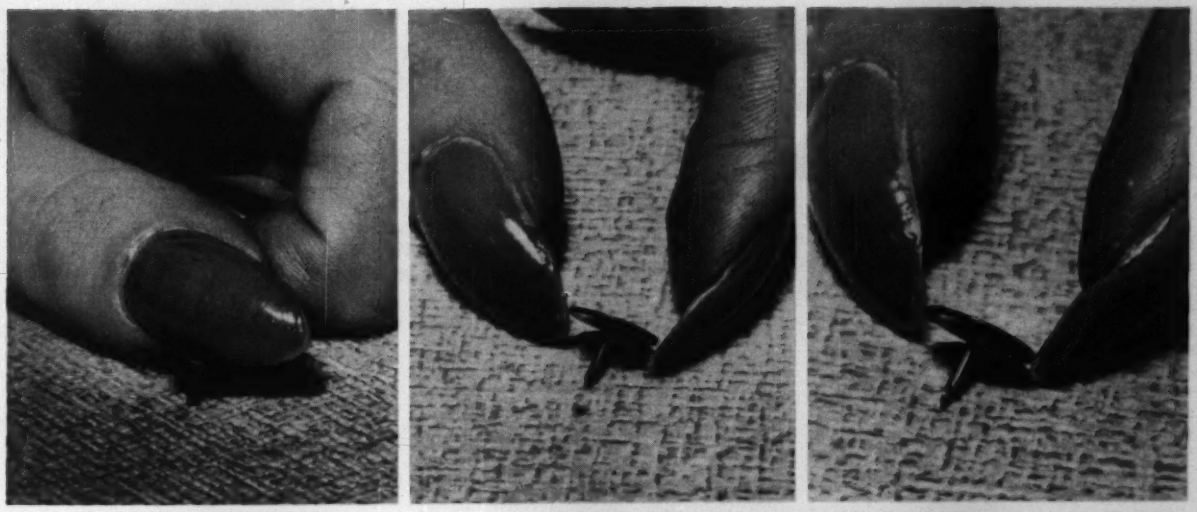
Desk-Size Control Data 160 Executes 60,000 Instructions a Second

The newly developed desk-size Control Data 160 combines versatility and speed for use in fields of engineering and scientific calculations, statistical and business data processing, data conversion, data logging and data acquisition, industrial control, and communications system. It can execute 60,000 instructions a second and handles data transmissions to and from input-output equipment at speeds of up to 65,000 characters per second. Control Data Corporation, 501 Park Ave., Minneapolis 15, Minn.

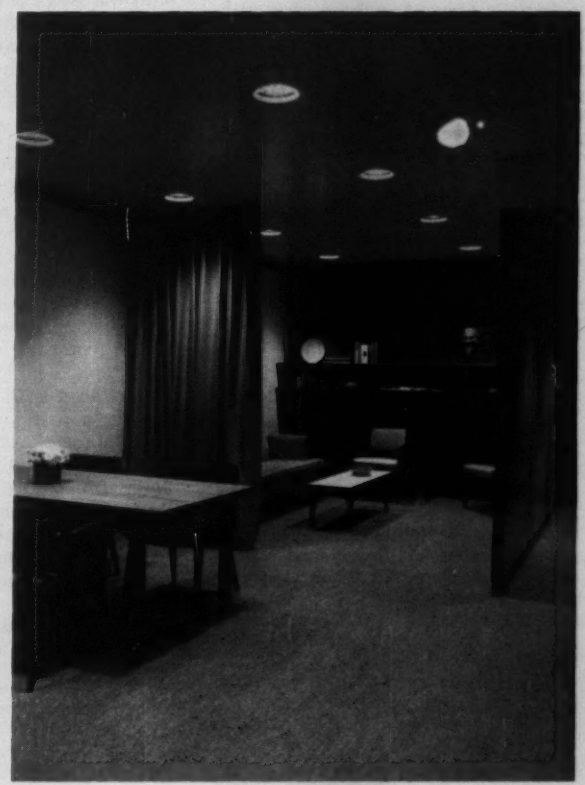


Olivetti Teletypewriter Produces Printed Message on Punched Tape

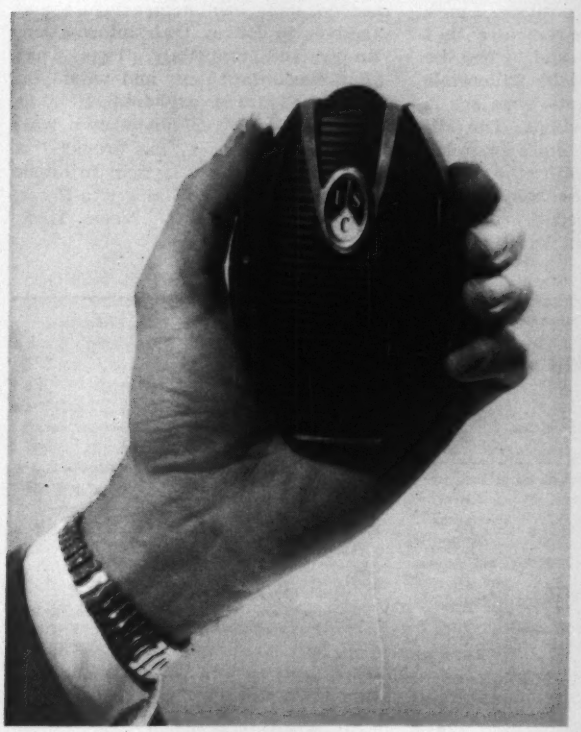
A new teletypewriter produces a printed message on a standard 11/16-inch punched tape that is fully compatible with electronic readers and integrated data-processing systems. The Olivetti T2PN Printing Reperforator is a full-capacity teletypewriter that prepares a conventional, fully perforated, 11/16-inch five-channel tape while sending and receiving messages. At the same time, the machine prints a typewritten message between the feed holes of the perforated tape. Distributed by The TELautograph Corporation, 8700 Bellanca Ave., Los Angeles 45, Calif.



Hauserman Company Develops Signature, Delineator Wall Systems



The E. F. Hauserman Company has developed two new movable wall systems: the Signature and the Delineator. Designed to achieve minimum wall thickness and maximum function, the panels are 2¼ inches thick. Signature (shown at right) offers trim modern appearance plus improved sound control, greater flexibility, and easy access to wiring. The four-way post permits utilization of movable walls for efficient space division. E. F. Hauserman Company, 5711 Grant Ave., Cleveland, Ohio.



Miniaturized Electropage Receiver Weighs Only Eight Ounces

Under the new Electropage interoffice communications system, each key individual carries a miniaturized receiver that weighs only eight ounces. The operator contacts any of these persons immediately in any of the buildings or adjacent grounds. The call then goes through a supervisory control center to a central control where automatic switches pick up the call and put the voice on the air. The transistorized receivers are carried in the pocket. In high noise areas, volume can be adjusted quickly. United States Communications, Inc., 20 Madison Ave., Hicksville, L. I., N. Y.

NEW BOOKS FOR EXECUTIVES

THE THIEF IN THE WHITE COLLAR. *By Norman Jaspan with Hillel Black.* By dramatic support of each contention with interesting anecdotes, this book paints a convincing picture of the shocking increase in employee dishonesty that cannot be detected from accounting records. It should be required reading for all members of top management and it should have more effect than less lively and less thorough books and articles on the same subject have had in the past.

Mr. Jaspan pulls no punches in laying the blame for the majority of white-collar thievery in the lap of top management. "If the American businessman doesn't awake to the problem, he will discover the white-collar thief has not only picked his pocket, but stolen his pants," is one of his summations.

Motivations of embezzlers are carefully examined. Case studies are given in complete detail, some occupying entire chapters, and covering clerks, sales personnel, executives, financiers, politicians, and even union leaders. In addition to thorough studies of some of the classic cases, there is much fresh material —particularly on retail operations— from the files of Mr. Jaspan's own consulting firm.

In the hard-hitting final chapter, Mr. Jaspan says in no uncertain terms that management should watch employees more and figures less. As measures to correct the situation, he particularly directs: "Do not act impulsively. Set fair standards of performance. Maintain good communications. Know the status of employee morale."

"A System of Preventive Management" is offered in an addendum which, if followed, would give any firm a fine framework of procedures. It omits, unfortunately, any mention of controlling paperwork to make such a system truly effective—canceling documents to prevent re-use and validating to prevent the creation of fictitious documents. *J. B. Lippincott Co., E. Washington Sq., Philadelphia 5, Pa.* 254 *pp.* $4.95.

W.H.K.

(The author of this review is William H. Klotz, sales manager of Cummins-Chicago Corporation. While he was the comptroller of the company, he instituted controls of disbursement and shipping operations that have been marketed by Cummins since 1956. He is also the author of the booklet, How to Save 3½ Percent of Profits.)

THE LINCOLN LORDS. *By Cameron Hawley.* Since he left his position as a corporation executive, Mr. Hawley has written three novels: *Executive Suite, Cash McCall,* and now *The Lincoln Lords.* All utilize definite business backgrounds—furniture, plastics and appliances, and food canning, respectively. The author made a thorough investigation of each of these industries before writing the novels. Many readers, however, may become quite bored with the lengthy descriptions of food canning, although they could learn quite a lot about a little-known process. Whether this is desirable in a novel or not is up to the individual reader.

What are the qualities of a good corporation president? Is it his job to be an idea man or to make the right decisions at the right time? Or, more particularly, is Lincoln Lord a good corporation president? These are the questions about which *The Lincoln Lords* evolves. As the book begins, Linc has had five different company presidencies in 10 years and is no longer a young man. He is faced with the problem of obtaining a permanent position. Linc's wife, Maggie Lord, is not sure that he can get the job and, when he does, is not sure that he will settle down to it. At the same time, she is ashamed of these feelings. The climax comes when Linc's canning company is faced with the possibility that some of the baby food it has canned is poisoned. Faced with this situation, Lincoln Lord has to make his own decision for the first time in his business career. *Little, Brown and Company, Boston, Mass.,* 566 *pp.* $5.00.

MRS. J.A.R.

Briefly Noted

SOURCES OF COMMODITY PRICES. *Compiled by Paul Wasserman.* This is a revised and up-to-date version of an invaluable book published in 1931 and long out of print. It contains an alphabetical list of 6,800 commodities—from A and D feeding oil to zytel—for each of which it reports the name of the periodical publishing the price, the market or markets in which the price is effective, and the frequency with which the prices are published. The book also contains numerous cross references and a directory of periodicals mentioned in the body of the work. This book reflects the ingenious labors of a large and hard-working committee. *Special Libraries Association,* 31 *East 10th St., New York* 3, *N. Y.* 170 *pp.* $5.00.

ACCOUNTING FOR NON-ACCOUNTANTS. *By John N. Myer.* Like nuclear physicists, race-track touts, and members of other elite professions, accountants have developed a jargon of their own. They did this not merely because they wanted to be able to communicate with each other without us children understanding, but also because they needed their own nomenclature and symbols to convey their information, simply and compactly. Thus what your accountant says and what you think he means are frequently at variance. Mr. Myer, obviously a traitor to his profession, has provided a key that will allow laymen to break the code. *New York University Press, Washington Square, New York, N. Y.* 235 *pp.* $5.00.

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YOURS FOR THE ASKING

The literature recommended below has been selected by the editors of AMERICAN BUSINESS for its usefulness to management executives. Requests for this material, which is free, should be sent directly to the companies listed. Prompt action is suggested; supplies of such material are usually exhausted within a few months.

A VERY USEFUL pocket guide to electronic computers has been reissued by Remington Rand Univac. "What Every Businessman Should Know About Electronic Brains" first appeared in 1956 and has provided many laymen with a basic idea as to what computers are all about. This new edition includes recent developments in the field and retains the humorous approach. Remington Rand Univac, 315 Park Ave. South, New York 10, N. Y.

* * *

A FREE WORKING KIT of one-time carbon papers developed for forms to be used on high-speed tabulating equipment is available from Port Huron Sulphite & Paper Co. Included in the kit are samples of a new "non-bleed" carbon for use in forms containing offset plates. Port Huron Sulphite & Paper Co., Port Huron, Mich.

* * *

"WHAT'S AHEAD for college graduates?" is the question asked and answered by the U. S. Department of Labor in the booklet "Manpower Challenge of the 1960s." The 24-page publication is reprinted from the December 1959 issue of *Occupational Outlook Quarterly* and is available from the U. S. Department of Labor, Bureau of Labor Statistics, Washington 25, D. C.

* * *

60 BEST BUSINESS LETTERS, 71-page booklet, explains in detail how businesses have solved correspondence problems. It contains 60 of 1959's best sales letters, collection requests, answers to inquiries, adjustments, etc. It is a valuable reference source for both boss and secretary. American Automatic Typewriter Company, Dept. A, 2323 N. Pulaski Rd., Chicago 39, Ill.

* * *

FILMS AVAILABLE on free loan—345 of them—are listed in the new catalog, "Pocket Guide to Free Films." The films range from "The ABC's of Beef Cookery" to "The Manufacture of Modern Coated Abrasives" to "Wrenches, Pliers and Screwdrivers." All films are 16mm., sound, up to a half-hour in length. Modern Talking Picture Service, 3 E. 54th St., New York 22, N. Y.

* * *

"BUSINESS ALMANACKE and Vacation Calendar for 1960" combines a vacation schedule with handy reference information for the businessman. The almanac styling is authentic, even to the point of using 200-year-old type and spelling, and reproductions of woodcuts as illustrations. A sample entry is "Of Holidayes and Grande Occasions That Public Spirited Citizens Would With Fervor Celebrate, Memorialize or Commemorate . . ." Manpower, Inc., 820 N. Plankinton Ave., Milwaukee 1, Wisconsin.

* * *

INDUSTRIAL INCENTIVES are studied in a 12-page reprint entitled "Making Incentives Work" by Frances Torbert. Originally printed in the September/October 1959 issue of *Harvard Business Review*, the article deals with such problems as automation, piecework, and union attitudes. Eddy-Rucker-Nickels Company, Harvard Square, Cambridge 38, Mass.

* * *

WHAT IS MOTIVATION RESEARCH? This is one of the questions answered in the new 14-page pamphlet put out by Louis Cheskin. It is entitled "Take Gambling Out of Marketing by Testing Marketing Media on an Unconscious Level." Also discussed are ways to measure the effectiveness of an advertisement and the effectiveness of a package. Louis Cheskin, 105 W. Adams St., Chicago 3, Ill.

* * *

TWO NEW BOOKLETS are available from Cities Service. "How to Build a Bigger Business" and "Accounting: Tool For Business Success" are the eight and ninth respectively in a series. Although the contents are tailored to the petroleum industry, the publications contain interesting ideas for all businessmen. Department of Business Research and Education, Cities Service Petroleum, Inc., 60 Wall St., New York 5, N. Y.

JUST $2.95

THE
DRINKING PROBLEM
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By C. A. D'Alonzo, M.D.

Here's the book that's getting nationwide attention. It should be in the library of all concerned with personnel management problems. The book tells how to spot any tendency toward alcoholism and how to identify an alcoholic by his characteristics. It describes the eight telltale stages and the value of various treatments. And it shows how sobriety can be attained. "Must" reading for anyone who takes even a social drink.

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BUSINESS ON THE MARCH

It's a Bashful Boom

An eyebrow was slightly raised January in this space over the high hopes that some people were holding over the 1960's. Well, the turning of the calendar and the beginning of a new decade have not brought the promised prosperity. Yet unrelieved gloom now would be just as unjustified as the unrelieved optimism of the amateur seers of a few months ago. True, automobile sales have been disappointing to the manufacturers and the steel output rate has been sliding from its January high. Manufacturers' new orders also have been declining.

Perhaps the greatest single cause of worry is the stock market decline. It raises the fear that the market was foretelling another recession, as it did early in 1957. Such an attitude gives far more credit to the wisdom of the stock market than is deserved.

There seems little doubt that 1960 will be a good year and that the 1960's will be a good decade. While it may be no bonanza, business will be good . . . for companies with smart and hard-working managements.

"Our Greatest Challenge"

One of the great problems of the decade will be to select and develop managers from a smaller reservoir of manpower. The low birth rates of the 1930's are now making themselves felt in the manpower market. It is possible to get along with fewer production workers by using automated machinery. But it is just about impossible to make significant increases in the output of executives.

The solution would appear to be plain: Develop more executives through better selection procedures and better development efforts. The yearbook of American Telephone and Telegraph contains a powerful paragraph about the subject:

". . . our greatest challenge is to conduct the business in such a way that thousands of people will find it a first-rate place for them to grow in; to select and bring into the business individuals who have real potential for personal growth; and to stir their imagination and energies so that they will reach out and achieve new standards of excellence in management. This challenge we are bending every effort to meet—through better induction procedures, educational programs, research studies, and, most important, job assignments and methods of supervision that bring out and bring up the individual's whole capacity."

Facts and Facts

"Don't argue with facts" is a frequently heard injunction. Nonsense. Facts have to be argued with because one man's facts are another's foolishness. And facts lose their validity. Yesterday's facts are today's fancy. Even today's facts are frequently not very helpful in the plans and projects of tomorrow.

Nor are even factual facts an end in themselves. The reasons for the facts have to be determined; then it is necessary to establish what they mean; and then you have to decide what needs to be done.

"I don't trust that man's facts," Justice Brandeis used to confide to his law clerks from time to time. He did not disbelieve the man's honesty. He mistrusted his judgment. Facts can't speak for themselves. Standing by themselves they can be very misleading. Any fool can jump to a conclusion and usually does. It is the patient man who bores through the facts to the correct conclusion. If he can determine what needs to be done in light of the facts, he is worth something. Facts by themselves are not worth much.

Changes in the Labor Force

While business forecasts are risky to make, changes in the labor force during the 1960's are easy to project. All the persons that will be old enough to work during the current decade have already been born.

The U. S. Department of Labor's most recent projections show that the labor force will expand more than 18 percent during this decade—from 73.6 million to 87.1 million by 1970, a net increase of 13.5 million people. About 26 million young people will begin looking for jobs. They will be joined by about 3 million women returning to work because their children have reached school age. About 15.5 million persons will withdraw from the labor force because of death, retirement, marriage, childbirth, and other reasons.

Caricature of a Businessman

Cameron Hawley, author of *Executive Suite* and *Cash McCall,* has written another novel entitled *The Lincoln Lords.* Its hero, according to a press release, is the kind of businessman everybody recognizes: "He never makes a decision without calling a meeting, settles all problems by compromise, never takes a position against majority opinion. He is the accepted image of success to hundreds of thousands of young men on their way up."

Maybe so, but these young men apparently are not paying any mind to the really effective business leaders of this generation; men like Cordiner of General Electric, Cresap of Westinghouse, Breech of Ford, Greenewalt of Du Pont. And a dozen you could name within your own company and community.

(*A review of* The Lincoln Lords *is on page* 46.)

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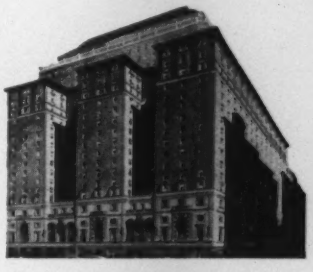

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> ***"This has been one of the most complex conferences we have ever presented—yet it has been one of the smoothest, due to the efforts of the Hotel staff.***
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> ***"As far as I know, there has been no instance of our asking any employee of the Hotel for service or equipment and not getting exactly what we asked with speed and dispatch. We are grateful to you all."***

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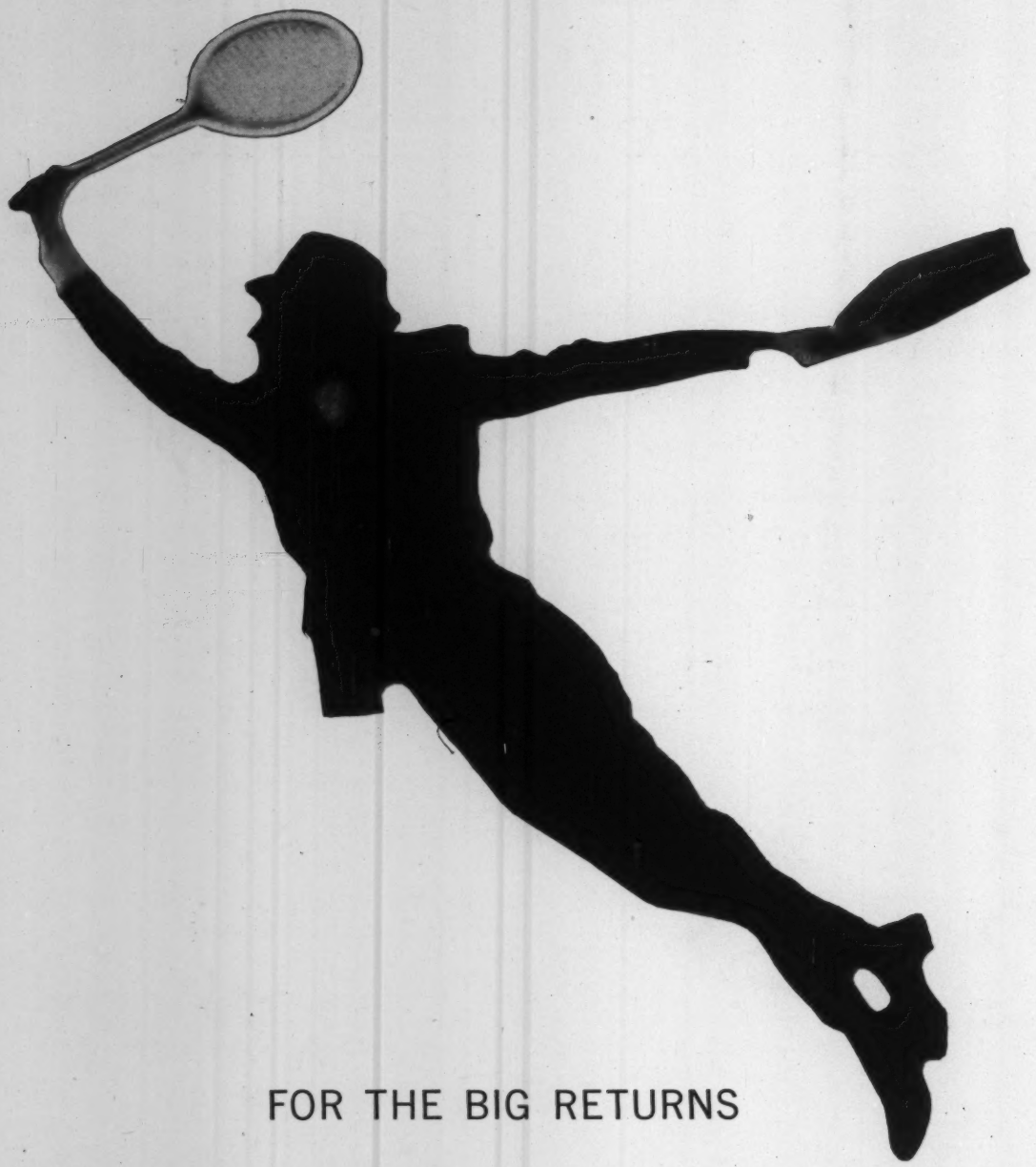

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